Lectures
ON
INJURIES OF THE HEAD.

Delivered at University College Hospital,

BY JOHN ERIC ERICHSEN, F.R.S., F.R.C.S.,

SURGEON-EXTRAORDINARY TO THE QUEEN; EMERITUS PROFESSOR OF SURGERY AND OF CLINICAL SURGERY IN UNIVERSITY COLLEGE, AND CONSULTING SURGEON TO THE HOSPITAL.

LECTURE I.

EXTRAVASATION OF BLOOD ON THE DURA MATER, &c.

GENTLEMEN,—I wish to direct your attention to a peculiar class of cases, which is amongst the most interesting of those that are connected with injuries of the head, both in the peculiarity of the symptoms and the accuracy with which the diagnosis can be made, and in which you can give absolute relief to the patient—I mean those cases in which there is an extravasation of blood between the skull and dura mater. They are a class of cases that engaged the attention of surgeons very many years ago. This subject attracted the attention of, and was very closely investigated by, surgeons of a past generation. You will find that we have really at the present day been able to add very little to the information that can be obtained from the memoirs of the French Academy of Surgery and the writings of Pott, Abernethy, and Sir Charles Bell. You will find in their writings much valuable information on all subjects connected with head injuries, and I cannot but fear that the study of the works of these great surgeons is too much neglected at the present time. But before I proceed to discuss these extravasations, let me relate a few cases which are interesting, amongst other reasons as showing what very slight injury may occasion a fatal extravasation.

Some years ago a little girl was going down stairs with her mother to dinner. She said, "I will go first, mamma," and started to run down stairs, but she missed her footing and fell forward. Striking her head slightly against the wall, she felt a little dazed at the time, but went to her dinner, ate it, and afterwards felt slightly sick. She was sent to bed, slept soundly, and was dead next morning. There was a clot found between the dura mater and the skull on the side of the head that had been struck, but without any fracture.

Many years ago I was called to see a lady who had come up to town for a few days to amuse herself. She went to the opera, and in going down the stairs caught her foot in the train of a lady's dress. She fell forward and struck her head slightly against the opposite wall. She felt a little giddy, and said that she would not go into the theatre, that she would return home. She went to bed, fell asleep, and about ten in the morning, when the maid came to wake her, she found her so fast asleep that she did not like to disturb her; but about twelve o'clock the friends got alarmed, and they sent for a neighbouring medical man, and he came for me. I found her comatose, suffering from compression of the brain, and went home to get my trephines, but when I came back she was dead. A post-mortem examination was made, and we found a clot of blood the size of a small saucer on the side that was struck, between the skull and dura mater, over the course of the middle meningeal artery, but without any fracture of the skull.

Some years ago a cabman was thrown off his box, and he became slowly comatose. Three days after the accident he was brought to the hospital. When I saw him he was suffering from profound coma, and there was some paralysis of the side opposite to that on which he had been struck. I cut down upon the skull, and found a starred fracture in the right temporal bone. I trephined him, and found a large clot of blood under the bone. Some blood welled out rather freely, evidently from the middle meningeal artery. The flaps of scalp were laid down, and he made a very good recovery. During his convalescence he presented one of those peculiar psychological phenomena I mentioned in a former lecture. He commenced to swear "like a trooper." Some four or five years after this, one day, as I was going home, a cabman came up, touched his hat to me, and said, "Do you recollect me, sir?" I said "No." He said "I am Jim. I daresay you recollect me, sir, because I used to swear so horribly." I found that he was quite well, and able to go about his ordinary avocation as if nothing had occurred, though he had a deep depression at the seat of the trephine opening.

On the 11th of December a similar case was admitted into the hospital. The patient was a brewer's drayman, and while driving his cart on the evening of the 11th fell off from the driving seat into the road, a crate also falling with him, and bruising the right side of his face and head. He got up on to his box, and drove some distance, then, feeling giddy, lay down in the van, and in about half an hour he was noticed by his mate to be quite unconscious, and was driven at once to the hospital.

On admission, the patient was completely unconscious; the pupils were widely dilated and fixed; stertorous breathing, 18 per minute; complete general paralysis; pulse very full and tense, 32 per minute; slight bleeding from right nostril; over the back of the left parietal bone slight puffy swelling; left temporal fossa fuller than right, puffy. A stimulant enema was given, and at once returned.

Mr. Beck came about 10 P.M., examined the patient, and found his condition unaltered. He at once trephined over the left middle meningeal artery, an inch and a half above the zygoma, and an inch and a half behind the left external angular process. Here he found a fissure in the bone, and on removing the crown, the groove of the artery was found upon it, divided by the fissure. Fluid blood and soft coagula at once welled up from the wound. There was a very large clot underneath the skull, which was removed by the lithotomy scoop. The dura mater was uninjured, depressed from the bone for two inches, and separated as far as the finger could reach in every direction. At first very free hæmorrhage occurred from the inside of the skull, the blood welling up; no artery could be seen or felt. Compression of the common carotid did not appear to have any effect on the hæmorrhage, which after a time got very much less. During the operation the patient's pulse rose to 60 per minute. A fold of lint wet with iced carbolic lotion was applied to the wound, and the patient was carried back to bed, the blood then only trickling out of the wound. Pulse was much smaller, irregular, occasionally intermittent, 52; paralysis and other symptoms remained in the original condition.

Jan. 12th at 7 A.M. patient vomited; at 8 A.M. he died.

The following notes are taken from the case-book as entered by the ward clerk:—

Autopsy, by Mr. Beck, five hours after death.—Head: A little blood under the scalp on the left side, and in the left temporal muscle. A fissure was found running from just above the left parietal prominence into the trephine wound, and from the further side of that downwards and forwards, ending just below the outer end of the lesser wing of the sphenoid bone. At one place in the very thin squamous bone it was starred. The trephine had been used two inches behind the external angular process and an inch and a half above the zygoma. The head was then opened. Longitudinal sinus healthy. Surface of brain dry; convolutions very flattened. A slight bruise on the under-surface of the anterior end of the right temporo-sphenoidal lobe just opposite the point struck. Another slight bruise in the under-surface of the same lobe on the left side just beneath the point struck. No meningeal hæmorrhage. A considerable quantity of clear fluid in ventricles; no blood. Veins of Galen distended with blood. The left corpus striatum projected considerably further into the ventricles than the right. No hæmorrhage into or laceration of any part of brain or medulla; nothing to account for persistence of compression symptoms apart from the clot under the skull. The dura mater was found to be detached from the skull on the left side for a space several inches in diameter, extending forward to the small wing of the sphenoid, downward to the petrous portion of the temporal bone, upward nearly to the middle line, and backward to the middle of the posterior fossa of the skull. It was separated some distance from the skull, and the space filled up with a soft black clot about the size of the hand. The middle meningeal artery was found to be torn, but not divided, at a point opposite to the starred fracture, just behind and beneath the small wing of the sphenoid. Lateral sinus uninjured. No other injury detected.

Now, let us briefly consider the main facts of this very

typical case. The man, when admitted, was found in a state of profound coma, slow pulse, and breathing eighteen times a minute, &c. Mr. Beck was sent for, and finding him in this condition, very properly cut down upon the left temporal fossa, and some blood was seen oozing from a fissure in this region. A fissure was seen in the bone, blood was oozing from this fissure, and it was evident, from the gradual supervention of coma, that the man was suffering from cerebral compression, the result of extravasation. The trephine was applied in such a direction as to cross the course of the middle meningeal artery, a large clot was scooped out with the lithotomy scoop, blood welled up, and it was difficult to get it all away, but the finger could be passed up between the dura mater, which was separated several inches. The brain did not rise and push out through the large trephine opening, nearly an inch in diameter, as if there had been the natural upheaving of the brain. The man continued in a somewhat comatosed and paralysed state, and died the next morning. On examination after death, the dura mater was found injured, a starred fracture was discovered, and the middle meningeal artery was found torn at a point opposite the fracture, and had been torn as it passed in the canal in the parietal bone, by the same force which occasioned the fracture. Well, here is a typical case, then—as typical a case as it is possible to have,—of a wound of the middle meningeal artery giving rise to extravasation of blood. Just let me go over what took place.

In the first place, the man received a blow from falling off his box. He was concussed, but he completely recovered his concussion; so much so as to be enabled to drive, and that shows that he was completely free] from paralysis. After having driven some little distance, he felt giddy, and resigned the reins to his companion, lay down in the bottom of the van, and gradually became comatose. He was brought to the hospital, and found in a state of profound coma; widely dilated pupils and slow pulse—in fact, he was exactly in the condition of a man with atheroma of the arteries of the brain, one of which had given way and occasioned fatal apoplexy.

The trephine was applied to the left temporal fossa. Now, why was it applied to the left temporal fossa? For this reason: because it was more bulging than the right. And why was it more bulging than the right? Because there was a fissure through which blood was oozing, and had given rise to the projection of the temporal muscle. The trephine was applied, and it was applied in the course of the middle meningeal artery. Now, gentlemen, if any of you are asked the question elsewhere, How would you apply the trephine so as to strike the middle meningeal artery? you would give this answer: you would take a point an inch and a half above the zygoma, and an inch and a half behind the external angular process of the frontal bone, and where these two points meet you will find the middle meningeal artery.

A large clot was exposed; and when you expose a large clot, what are you to do? Leave it or remove it? The better plan will be to remove it. Sometimes the brain will upheave and push out the clot; but sometimes it does not upheave. In this case the brain did not upheave, and the man died speedily comatosed. You should remove the clot, and, having removed the clot, what do you do with the middle meningeal artery? If it is torn, as in this case, you cannot stop the hæmorrhage; and there is no necessity to do so; you will find the hæmorrhage cease of itself. There is a very curious condition connected with this middle meningeal artery, and it is this: when it is wounded in such a place, and is exposed, it bleeds a little, but it does not bleed *per saltum*; the blood merely wells out from it, and the hæmorrhage very soon ceases. Probably the artery contracts; but in this case it did not do so, because the artery was only partially divided; it could not contract and retract.

Now these are some of the chief points in connexion with these cases; but there are one or two others to which I have to direct your attention. One is, the size of these clots; they are very large. This one, after it had been removed, weighed three ounces and a half. The largest I have found was somewhere about four ounces and a half. They are very thick in the middle, and flattened out at the edges. Usually they are black, and there is very little serum in connexion with them. Well, now, there is a last point to which I wish to direct your attention. When the finger was introduced, the dura mater was found to be separated to a considerable extent. The man did not live many hours after the accident, and this large clot was extravasated after an hour or so. This leads me to a brief discussion on the causes of hæmorrhage on the dura mater, and the cause of the separation of the dura mater from the skull. I need scarcely tell you that the dura mater is the internal periosteum, so to speak, that upon the dura mater the vessels that supply the cranium ramify, and that the dura mater is very closely applied to the skull. In post-mortem examination you will find that you have to tear the dura mater from the skull, it is so closely adherent to the bone that lies immediately upon it. This has a very distinct bearing upon the cause of these extravasations of blood. They are very commonly attributed to rupture of the middle meningeal artery, and, in some cases, with justice. But there are cases in which you get these symptoms without any laceration of the middle meningeal artery. The vessel, after death, is found lying uninjured in its osseous canal.

The explanation of these cases given by Sir Charles Bell many years ago showed experimentally how these extravasations are occasioned. He took a wooden mallet and struck a forcible blow upon the side of the head of a body in the dead-house. On removing the skull-cap he found that the dura mater was detached from the seat of the blow, although there was no fracture. He went further than this; he made the same experiment upon another subject, and after having made it he injected it with soft size. He injected this into the arteries, and found, after the size had been allowed to cool, that it had become extravasated, and had formed a large clot between the dura mater and the skull. There you get the exact condition of things that we meet with in the wards and operating theatre—namely, a separation between the dura mater and the skull, and an extravasation of blood between the dura mater and skull where they are separated. From these interesting observations it would appear that there are two distinct sources of hæmorrhage between the dura mater and skull. In the first case the middle meningeal artery is torn across by a fracture travelling across the anterior inferior angle of the parietal bone; and in the second case, in which the artery is not torn, but an accumulation takes place from the smaller branches that get torn at the time the shaking occurs which separates the dura mater from the skull, and which allows oozing to go on, and produces a slow supervention of coma—what you may call "surgical apoplexy." It has been supposed that the separation between the dura mater and skull was effected by the impulse of blood driven out from the torn middle meningeal artery, which pushes away the dura mater from its connexions with the skull, and as it pushes away the dura mater the cavity so formed is filled with blood. Sir Charles Bell conclusively proved, by the experiment to which I have referred, that separation of the dura mater was the primary condition; and there can, I think, be little doubt that the detachment of the dura mater is the result of the blow on the head, and the filling up is the consequence of that detachment, and that it could not take place if the detachment had previously occurred. The vacant place gradually gets filled up with blood, more rapidly if the trunk of the middle meningeal artery be torn across, when it will become full in the course of half or three-quarters of an hour after the accident. When the main trunk escapes, and it is only the terminal branches that get torn, you get that set of cases in which the accumulation of blood goes on much more slowly, and only compresses the brain to such an extent as to give rise to coma in the course of several hours.

Now there is a third condition, and that third condition is a very important one. I will relate one case, and report the post-mortem of another. Last spring I was called to see a gentleman living a few miles from town, who was out riding with his daughters when his horse picked up a stone. He let his daughters go on, and got down to see what was the matter, but finding that their father did not follow them the young ladies returned, and found him lying on the ground in a state of insensibility. The precise nature of the accident did not transpire, but it is probable that the horse turned its head and struck him when he was trying to remove the stone. Anyway he was seen and attended to immediately after the accident; not more than two or three minutes could have elapsed, but yet abundant hæmorrhage had occurred. There was a large pool of blood in the road, and blood was welling freely out of his left ear. The daughter took his head on her lap, and her habit was soon saturated with blood. Some assistance was got from a neighbouring cottage, the bleeding ceased, and in the course of an hour or so he was able to walk to a neighbouring railway station, took a train for some miles, and afterwards walked from the station home, a distance of about a quarter

of a mile. There was no question about the quantity of blood that had been lost, because the young lady's habit was soaked through and through, and a large quantity lay in the road as well. I saw him the same evening. He was somewhat concussed, but had no paralysis, no coma, no dilatation of pupils, and no signs of intracranial extravasation or compression. The bleeding from the ear had ceased, and he thought there was nothing much the matter with him. He remained very quiet under my care and that of Mr. Evans, of Hampstead, for some weeks. He made a slow recovery, but apparently a very good one, the only trouble left being deafness of the ear on the injured side. At the end of a couple of months or so he was able to go to the city, against our advice; however, but he did do so on some business matters of importance. He now gradually became melancholic, and got religious delusions. It was thought that a change of air would be of advantage, and he went to Scotland with his brother, and in about a week he suddenly got worse, had some epileptic seizure, and died in a very short time.

There was, unfortunately, no post-mortem examination in this case, so that we could only guess at the source of the sudden and copious hæmorrhage. But in the next case which I shall relate there was a post-mortem, and in all probability the post-mortem in this case throws some light on the one just given. I will read it to you as reported in the case-book, and from Mr. Beck's notes.

On Aug. 16th, W. P——, aged about thirty-two, received a severe blow on the left side of the head from some bars of iron projecting beyond a railway truck. On admission he was unconscious, but struggled when the wound was examined. The wound was about two inches in length and irregular in shape, and situated about two inches and a half above the left mastoid process. On examination with the finger, a large piece of bone could be felt to be deeply depressed, the upper part being depressed below the lower. A small loose fragment could be seen. This was removed with a pair of forceps, and sufficient room was so obtained to insert an elevator beneath the depressed fragment. The moment it was raised, a stream of blood about as thick as the top of a finger, and rising to the height of about three-quarters of an inch, poured out of the wound. The depressed fragment was immediately seized in a pair of sequestrum forceps, and pulled out. It was about two inches and a half in length by one inch and a half in breadth; it included the lower and posterior part of the parietal bone, but the groove for the lateral sinus was not included. Its surface was covered in part by the fibres of the temporal muscle. It was now seen that the blood came from under the lower margin of sound bone, and, in order to arrest it, plugs of lint had to be pushed in between the dura mater and the bone. From the situation of the fracture with relation to the lateral sinus, it was evident that the depressed fragment had been driven downwards and inwards, and its point had lacerated the sinus, but was partially plugging the wound it had made. On raising the fragment, the blood burst out through the wound. The situation is represented in the accompanying diagram, supposed to represent a vertical section of the fractured part. The fracture is just above the sinus, and the depressed fragment is driven downwards and inwards into it. The plugs of lint inserted in order to stop the bleeding lay in the same position, and instead of pressing together the two sides of the sinus, they propped the wound open and projected actually into the cavity of the sinus, a condition almost absolutely certain to cause decomposition and breaking down of any clot that might form, and so give rise to septic embola and pyæmia.

A, The depressed fragment. B, The sound bone. C, Dura mater. D, The sinus. C', Dura mater.

If the surgeon in charge could possibly have fully comprehended the situation, the proper line of practice would probably have been to cut away the bone with the trephine or Hey's saw till the sinus was brought fully into view, and then to apply direct pressure. This operation might have been easily performed while the plugs were arresting the hæmorrhage. But such minute diagnosis is impossible. On the fourth day the temperature rose to 102°, and he had a rigor. On the fifth day the plugs were removed, but the blood poured out just as at first. The plugs were immediately re-applied. On the same day convulsions commenced. They began by twitching of the right side of the face and turning of the head to the right side; then the right arm twitched, then the right leg, then the left leg, and finally the left arm. At this time there was some evident want of power in the right side, but this disappeared in a few days. He had become more conscious, and seemed to know his name when spoken to. On the sixth day he had twenty-seven convulsions. Temperature rose to 104·5°, and he had another rigor. The convulsions continued till the eleventh day, when they ceased. He had then regained consciousness to a great extent, knew his wife, and could answer questions. On the tenth day another attempt was made to remove the plugs, and the greater part was got away, but on trying to remove the deeper part hæmorrhage again commenced, but ceased at once on applying a new pad over the remnant of the old one. On the fifteenth day the plugs were successfully removed. The symptoms of pyæmia were, however, now well marked, and the patient ultimately died of this disease on the 31st day. A few days before death, a large abscess formed in the neck below the mastoid process, on squeezing which pus could be made to pour out from the hole in the skull.

The post-mortem showed the conditions above described in the bone and sinus. The sinus was not firmly occluded, being filled on each side by soft decolourised putrid clots. This condition of thrombosis and decomposition of the thrombus had extended into the mastoid vein and through the mastoid foramen, and it was this that had caused the abscess in the neck, on squeezing which the pus found its way by the mastoid foramen into the lateral sinus, and from that through the opening in it into the wound in the head from which it flowed. The rest of the post-mortem was characteristic of the pure embolic form of pyæmia. Every organ of the body was typically healthy, except the lungs, which were riddled with secondary abscesses, evidently of embolic origin. The kidneys presented the usual swelling found after death with high temperature.

The rigors and convulsions occurred as below:—

Day.	Convulsions.	Rigors.	Temperature. Highest.	Lowest.
1	—	—	100·3°	98·4°
2	—	—	99·4	98·6
3	—	—	99·4	98·4
4	—	1	102·2	98·0
5	5	—	102·6	99·2
6	27	1	104·6	99·4
7	33	—	101·5	99·0
8	27	—	100·4	97·8
9	11	2	106·3	97·2
10	10	1	104·8	97·4
11	2	—	99·6	97·4
12	—	2	105·4	97·0
13	—	1	105·8	97·0
14	—	2	106·6	95·8
15	—	4	107·0	96·2
16	—	3	105·0	95·6
17	—	2	105·4	98·0
18	—	2	106·0	96·8
19	—	—	103·0	97·0
20	—	1	103·6	96·8
21	—	1	105·2	97·4
22	—	2	106·5	96·8
23	—	1	104·2	96·0
24	—	1	106·2	97·0
25	—	3	105·0	97·8
26	—	4	105·4	97·0
27	—	—	105·0	97·2
28	—	2	105·6	97·2
29	—	1	105·0	97·6
30	—	2	104·4	99·2

Now here was a case, then, of extensive intracranial hæmorrhage, not from an artery but from a sinus—one of the venous sinuses; and you can easily conceive that if there had not been a very free outlet to this blood it might readily have accumulated within the cranium, and you would have had compression of the brain from venous blood, as you got it in the other case from arterial blood. You got in this case that peculiar train of symptoms that used to puzzle the older surgeons—namely, the occurrence of pyæmia, and the tendency to secondary deposits, especially in the liver. There was no doubt of the pyæmia in this case, and it was

due to the large wound of this venous sinus, and the consequence of a plug which could not be removed, leading to general blood-poisoning.

There is only one point more that I will speak about to-day, and it is that these cases of blows on the side of the head with detachment of the dura mater seem also to explain the occurrence of intracranial suppuration. It has been well-known to surgeons that after blows on the side of the head without fracture an abscess will form between the cranium and the dura mater. That abscess no doubt forms just as the clot does in the vacant space between the cranium and the detached part of the dura mater, but in order that it may form something more is necessary than the mere detachment of the dura mater—the mere detachment of the dura mater will not give rise to abscess. These abscesses only form if the portion of skull which has been struck loses its vitality, just as we get acute subperiosteal abscess on the tibia of a child. The stripping off of the dura mater, which is the chief organ of supply of blood to the cranium, is not, however, sufficient, because the cranium receives blood through the anastomoses of the diploe, and also receives blood from vessels that take their origin from the exterior of the skull. In order that abscess should form you must have the periosteum stripped off, and you have this stripped off at the same time that the dura mater is detached. You will have the vascular supply of the bone so seriously interfered with, both from within and from without, that it loses its vitality, and thus, like all necrosed bone, becomes a source of irritation and of abscess.

Clinical Lecture
ON THE
RELIEVABLE ASPECTS OF HEART DISEASE.

Delivered at Guy's Hospital,

BY W. MOXON, M.D., F.R.C.P.,
PHYSICIAN TO, AND LECTURER ON MATERIA MEDICA AND THERAPEUTICS AT, THE HOSPITAL.

GENTLEMEN,—No disease better shows the strength of modern medicine than heart disease, and no disease better shows the weakness of modern medicine. The accounts of diseases of the heart before Laennec's time are now scarcely intelligible, being mostly found in a chapter on palpitation, the chief symptom then known; and even as to this the experience of so truly great a physician as Heberden led him to say, "Verum palpitatio cordis plerumque est istius modi, ut vel nullam medicinam postulet vel omnem vincat." And that is the sum of all Heberden has to say about heart disease in a book which is truly a most valuable compendium of his life's experience, which he sat down to write when he was old because he had seen and knew disease, not as nowadays, when doctors write because they are young, and because they want to see more of disease.

But how admirably extensive and complete is our modern knowledge of heart disease! so capable of exact application too. The pupils can occasionally correct the professors, their younger ears being quicker. And the post-mortem deals even justice between them all, and has no respect for the professor, even if he be an examiner. Have I not known examples wherein the candidate for the College licence was frowned upon in the wards of Guy's for a diagnosis which the post-mortem proved to be more correct than his examiners!

The heart is nowadays so open to study, and so well studied; its complexity is fully recognised, so that we find in it many parts. Thus:—1. Nervous centres and nerves. 2. Muscle. 3. Fibrous membranes and valves. 4. A serous covering, something like the surface of a joint. 5. A delicate lining in contact with the blood. And in our great tomes on heart disease we find a long and precise account of the kinds of heart disease founded on the several component tissues, thus:—

1. Neuroses or disorders of cardiac innervation.
2. Degenerations of muscle: fatty, or pigmented, or fibrous, or syphilitic disease of it.
3. Endocarditis, thickening of the valves, &c.
4. Diseases of the pericardium: pericarditis, tubercle, &c.
5. Thrombosis, or ante-mortem coagulation of blood in the heart, and its consequences.
6. Finally, alterations of the heart as a whole—viz., of the proportions of its cavities, &c., not to mention tumours of various kinds affecting the heart.

When we consider that each of these states has its signs, stethoscopic and otherwise, claiming and needing great exactness of application, we may justly think highly of the medicine of the nineteenth century. Indeed, if I were to stay and give a bare outline of the diagnostic distinctions of the several ailments I have thus touched upon, I should never reach the end of my subject.

No sooner, however, do we face the responsibilities of practice than a strain comes upon all this rather elaborate and intricate science of heart disease. And it becomes measured severely against the problems which are offered clinically for our solution. Here, truly, a good knowledge of the stethoscopic signs is of the greatest service, keeping attention fixed on some clearly recognisable fact amongst the various symptoms which may be present. In anything I shall say I am not, if you please, intending to slight the usefulness of the stethoscope, valuing it highly, and thinking it always a principal aim for each of us to be able to use it to better effect. Yet I think it might be an excellent regulation if every student were obliged to take another three months' course in the wards, with his ears stuffed with cotton-wool, or otherwise securely kept from the stethoscope, that he might learn to recognise and value the kinds of information which a general observation of each patient's case, and a general comparison of patient with patient, will enable him to acquire.

For there are many things which the stethoscope cannot tell us as to heart disease, yet which we chiefly want to know. Thus, whether a valvular heart disease is spreading or quiescent; whether it is due to thickenings or ulcerations. These questions the stethoscope cannot answer—nay, often it cannot tell us whether a valve-murmur is due to valve-disease at all, whether it is not only from over-distension. For answers to such questions we have to look to other means than those the stethoscope can afford. Yet these are a very important kind of questions. I do not think we always clearly enough remember, when we put the stethoscope on the chest, and the ear on the stethoscope, that by the most perfect auscultation possible we cannot learn—(1) whether the disease is severe or slight; (2) whether, if severe, that severity is due to the extent or the kind of the disorder; nor (3), lastly, whether, if the severity is due to the extent of disease, that extent is still spreading, or whether the disease is quiescent. When fully realising that our stethoscopes cannot by any means afford us information on these vitally important points, each of us will learn to cultivate actively other means of inquiry.

Again, I would no more say a word against the elaborate and intricate division of heart disease in a scientific manner into kinds founded on the anatomical components of the organ than I would speak willingly against the stethoscope. Yet has it not often struck you as very hard for you to apply clinically the elaborate information now furnished by scientific medicine? Thus, firstly, are there not generally several distinct "heart diseases" in most patients who suffer from grave cardiac symptoms? As a common instance, take the last case I saw. There were *adherent pericardium*, and *contraction of mitral valve*, and *regurgitation at aortic valves*, and *dilatation of left ventricle*, and much *hypertrophy*. Now, the patient had all these in him as one heart complaint, but I found that I should have to turn up five chapters of the book to study as many sets of symptoms for his one heart complaint; and so I found the book to represent heart disease in a more complex form than the patients. Secondly, do not our several patients show differences in symptoms and appearance which the books do not at all describe? Thus at the present time I have in the clinical ward under my care three women, each of whom has about the same degree of obstructive disease at the mitral valve. But one is a dirty-greyish cachectic-looking person, slightly cyanotic; another is a strongly yellowish-looking person, with deep red lips; and the third is a white waxen chlorotic-looking person, with prevalence of nervous symptoms. Now although our excellent guides (say Dr. Walshe) give you the

symptoms of such mitral disease, in a list from *a* to *m* inclusive, yet he does not give any account of such varieties as we here perceive; and so we see that the patients represent heart disease in a more complex form than the books; and thus whilst the history of heart disease in the books has grown rich and complex, nevertheless the lines of its complexity are not the same as the lines in which heart disease is clinically found to be various and complicated. Some changes of the heart which are the most striking and interesting in post-mortem appearances, are clinically merely complications of other diseases. If we divide heart diseases into these three kinds—(1) inflammations, (2) degenerations, and (3) alterations of the proportions of the heart's chambers, we shall then find that the first class, its inflammations, are practically always complications of other diseases, and chiefly of rheumatic fever, pyæmia, Bright's disease, and tuberculosis; complications so little obvious that through every century up to our own age they were entirely hidden in the diseases they accompany. And this is so much the case, I think, that in reading the often full and painstaking account of, say, pericarditis, in the largest books on medicine, your common sense should know that whilst the excruciating prolixity of the said account helps to fill up the large books, these well-drilled regiments of minutiæ are reduced in real value down to an utterly and certainly impalpable worthlessness by the simple reflection that, in fact, pericarditis is never allowed clinically to have any symptoms to itself at all, except it be certain rubbing noises or signs of fluid; any other symptoms it might otherwise be credited with being so blended in those of rheumatic fever, or whatever else it complicates, that they are quite inextricable. You might just as well try to extricate or distinguish from amongst all the diverse motives in the present political fever of the so-called "Liberal" party the peculiar symptoms of its heart's desire for office, as try to find out in the general disturbance of rheumatic fever &c. what are the special symptoms to be set down to cardiac inflammation complicating the mischief. If you do not put your ear to the chest, inflammation of the heart will reveal itself in terms of heart disease clinically only by causing the signs of hypertrophy and dilatation or by causing embolism. And these effects are generally deferred to a more or less remotely subsequent period.

Our second kind of disorders of the heart, its degenerations, are of more independent importance, yet they are even less definite. Fatty heart is a term familiar and frequent enough; yet I asked round my class the other day, and could find no man who had known within his own experience a diagnosis of fatty heart or a death from fatty heart within the hospital walls. Nevertheless, although comparatively rare as a distinct and fatal disease, fattiness, or rather fatness, or, if you will allow the term, obesity of the heart—that is, development of fatty tissue upon the heart—does occasion symptoms, and end in some cases fatally. The fatal issue, however, is not through dropsy or the other signs of common obstructive heart disease. It is often sudden, but it is approached through a noticeable series of symptoms. Thus at first you usually meet with the complaint of attacks of faintness, the patient being beyond middle life, and having of late increased in weight, and become short-breathed in going up-hill or up-stairs. The attacks of faintness are often nocturnal, and are attended with dyspnœa and with cold sweats, often very profuse and annoying. In these attacks, the sense of depression and fear of sinking to death is urgent, and brandy is imperatively required by the sufferer. Such attacks, with increasing difficulty of breathing during exertion, continue as the disease progresses until fatal syncope, or, in some cases, apoplectiform attacks, put an end to life; but dropsy, &c., generally do not occur. In such cases, proper management of diet and habits gives gradual relief. Excepting these cases of obesity of the heart, its degenerations are all secondary and clinically hidden in the diseases they complicate; as Zenker's change in the muscle of the heart in typhoid, &c., the pigmental degeneration that occurs in cachetic and wasting conditions, the so-called softening of the heart in fever described by Stokes, the fatty change in idiopathic anæmia in hearts that have undergone great hypertrophy, &c. If there be any exception to the truth of this statement, it will be in the fact that fibrous degeneration sometimes produces obvious cardiac disease; but then it only does so by inducing hypertrophy and dilatation, with their characteristic symptoms and results.

Thus, except as complications, it is to the third kind of heart diseases that we reduce all forms of heart disease as known at the bedside—namely, to alteration of the proportions of the heart's chambers, with more or less tendency to embolism. Heart disease, recognised as a distinct disease at the bedside, means always some disorder of its valves and walls, such as to cause it to gradually fail in its function of pumping steadily forward the blood, and to lead to alterations in the blood itself; and whether it be by changes in the valves, or by changes of the walls, and whatever valve be affected, this general statement is true, that, clinically, heart diseases are only so many modes of producing hypertrophy and dilatation; and, except in so far as they tend to poison or throw particles into the blood, heart diseases are dangerous in proportion as they tend to dilatation of the heart, and they are tedious and painful in proportion as they lead to hypertrophy of the heart. As to the changes at the valves, the reason why it is important to recognise and estimate these is in order that you may be better able to anticipate and understand the limitations of the cardiac dilatation and hypertrophy to one or the other cavity of the heart which will follow from that particular valve being the one affected. We cannot alter the changes at the valves. The changes at the valves may perhaps be more or less transitory during the course of the acute inflammations that give rise to them; but once established and chronic, they are permanent for all we can hope to do. There is only one general principle bearing on the practical prevention or checking of the changes in the valves, and that lies in the fact that valve-changes always occur on the line of friction where the valves meet when they come together; so that friction is the determining factor in the changes, and, if you can reduce the friction in acute endocarditis, you can reduce the danger of valvular changes. I am not sure of even that, for it may be that it is the bygone friction and its registered injury rather than present friction which causes the changes in acute disease. This is rendered likely by the greater liability of the harder working gender—whose harder work tells on the aortic valves—to aortic-valve changes from acute rheumatism. But I give you this principle to put in operation as far as you are able without my dwelling further upon its importance.

(To be continued.)

Clinical Lecture

ON A CASE OF

EXCISION OF THE KNEE-JOINT,

AND ON

HORSEHAIR AS A DRAIN FOR WOUNDS;

WITH REMARKS ON THE TEACHING OF CLINICAL SURGERY.

Delivered at King's College Hospital, Dec. 10th, 1877.

BY JOSEPH LISTER, F.R.S.,

PROFESSOR OF CLINICAL SURGERY IN KING'S COLLEGE.

GENTLEMEN,—I bring this little girl before you to-day because it is important that you should not only see the patients when they first come under our care in the hospital, not merely have the diagnostic features of their diseases pointed out to you, hear the appropriate treatment discussed, and witness any operations that may be performed, but also follow the after-progress of the cases, and further, because by bringing her into the theatre I can show you what I wish you to notice regarding her very much better than by taking you to her bed in the ward.

Let me remind you of the essential features of the case. As she was brought before you ten days ago, the left knee was bent considerably beyond a right angle, the leg being in fact at an angle of about 45° with the thigh, and we were given to understand that this condition of things had existed from the age of three years, when she was affected with a disease of the knee-joint up till the time of her admission to the hospital at the age of ten. The scar of a sinus was present at one side, but it had long since healed. The limb in that position was of course worse than

useless. I also pointed out that it was atrophied; or, to speak more correctly, had lagged behind the other in growth; so that the fibula was 1¼ in. shorter than the other, and there was a difference of ¾ in. between the two feet as measured from the point of the calcaneum to the end of the great toe.

I may remark that this atrophy, or lagging behind in development, seems to be interesting as explaining, in part at least, the corresponding fact after excision of the knee. If that operation is performed in early childhood, it is often observed that as the patient grows to adult life the affected limb is more or less considerably smaller than the sound one. This has been supposed to be due to taking away too much of the ends of the bones so as to deprive them of their epiphyses, but a case like the present points to another explanation. Here no portions of bone at all had been taken away, no active disease had been present for several years, and the only abnormal circumstance was that the limb had been in a condition incapable of being used like the other. In consequence of this want of use, not only had the muscles atrophied, a thing which you would all have anticipated, as the converse of the hypertrophy that occurs in the blacksmith's arm, but all the textures, including the bones, had grown in a less degree than in the healthy limb. Similarly, after excision, although the operation be successful, and perfect anchylosis between the femur and tibia be attained, the limb is not so vigorous as the other, and in proportion to its diminished activity may its growth be interfered with. I lately saw a case in private practice which illustrates this point still more strikingly. The patient was a boy who had experienced fracture of both bones of the leg in the lower third when a child. The fracture had been overlooked, and the bones had united in a faulty position, so that the foot was considerably inverted. The boy therefore could only walk upon the outer edge of his foot, and that with a very limping gait, except by the aid of an apparatus which, though it enabled him to tread fairly on the sole of his foot, was in itself necessarily cumbrous; and the result had been a shortening of the limb, as compared with the other, altogether out of proportion to the effect of the curved position in which the bones had united; and, just as in the case before you, the foot also was smaller than its fellow. There the interference with full development induced by imperfect action of the limb was still more plainly illustrated than in this little girl, because in the former there had been no disease at all from first to last, but merely the crippling influence of an injury.

To return to the case of the little girl. We had to deal with a limb which was not only useless from its bent position, but which had been so retarded in its growth that, even if perfectly extended, it must be shorter than the other. Hence it was a matter of the utmost importance that the means which should be used to produce extension should add as little as possible to the existing deficiency in length. The joint was not anchylosed, but the hamstrings became extremely tight on any attempt at extension. We therefore proposed to divide the hamstrings by subcutaneous tenotomy, but I led you to fear that this step might not be sufficient to enable us to restore the straight position; for I mentioned to you the fact first brought prominently forward by Prof. Volkmann, of Halle,[1] that in cases like this, in which the knee remains for a long time in a bent position, the lower end of the femur, no longer supported as usual by the articular surface of the tibia, may experience disproportionate growth in the downward direction, often to a very considerable extent. Meanwhile the lateral ligaments remaining of normal shortness, while the articular portion of the femur is abnormally lengthened, the tibia becomes locked against the femur when extension is attempted, and the application of violence for the purpose could only lead to backward dislocation. Accordingly we found that after free division of all the hamstrings, together with all tight bands of popliteal fascia, the tibia did become locked in the way I had anticipated, when we tried to straighten the limb.

The abnormal length of the end of the femur being presumably the essential obstacle to extension, I proceeded to reduce it, opening into the joint with a semilunar incision anteriorly without dividing the lateral ligaments, and paring away successive portions of the articular part of the femur until, some superfluous fibrous tissue of new formation having been also removed from the surface of the tibia, I was at length able to effect complete extension, but not without a degree of pressure of one osseous surface against the other which I should not have felt justifiable without antiseptic means.

The manner in which drainage was provided is a point worthy of your attention. Next to the importance of the avoidance of putrefaction in wounds is the prevention of tension by providing a free escape for effused blood and serum. This we have hitherto generally done by means of the caoutchouc drainage-tube of Chassaignac. But in the present case such a tube would have been unsuitable, because the natural position for the drain was that it should run between the ends of the bones which, as we have seen, were pressed together, so that the calibre of a caoutchouc-tube would have been altogether obliterated, and the drain in a most important part of its course rendered useless. Under these circumstances I used a drain of horsehair, because such a drain operates by capillary attraction through the interstices between the hairs, and those interstices cannot be obliterated by pressure, seeing that the hairs are not individually compressible.

The drain was introduced in a manner which you will often find useful. It may frequently happen that the most dependent part of a wound may have no opening in the skin to correspond with it: thus after excision of the mamma it may turn out, when the operation is concluded, that the wound presents a pocket extending considerably further back than the outer angle of your incision. Under such circumstances it is desirable to make an opening for the exit of the drain at the most dependent part. Now, if this were done by a puncture with the knife, some arterial branch of considerable size might be wounded, involving the necessity of freely enlarging the wound to secure the bleeding point. But if you take a pair of dressing forceps, and bore steadily from within outwards, the conical extremity of the instrument will slip past any arterial branch or nervous trunk without injuring it, and when at length it is apparent that there is nothing but skin between the instrument and the surface, the tough integument is divided with a knife over the point of the forceps, and the blades being forcibly expanded so as to enlarge somewhat by laceration the opening which has been made in the muscles, or other deeper textures, the drain is seized between the blades of the forceps, and drawn into place. So in the present case the most eligible position for a dependent opening was at the outer aspect of the limb, where the use of a knife would have involved the risk of injuring the external popliteal nerve, or of dividing some articular arterial branch. Any such difficulty was avoided by employing the dressing forceps in the manner described.

It is only right that I should mention, when alluding to the horsehair drain, that its use did not originate with myself. We were led to its adoption in the following manner. Mr. Chiene, of Edinburgh, suggested some time ago the employment of catgut as a substitute for the caoutchouc tube. He hoped by this means to provide adequate drainage through capillary attraction, and at the same time, by virtue of the proneness of the catgut to absorption, to do away with the necessity for the withdrawal of the drain from time to time, which there is when the caoutchouc tube is used, whether for the purpose of shortening the tube or substituting a small one for a large. Mr. Chiene's anticipations were to a considerable extent realised. In all cases in which the wound remained aseptic the absorption of the deeper part of the catgut drain, and consequent falling off of the part outside the wound, might be reckoned on as a matter of course; and in several cases in which the catgut was so used, both by Mr. Chiene and afterwards by myself, the drainage proved adequate and satisfactory. Mr. White, of the Nottingham General Infirmary, afterwards substituted horsehair for catgut; not because it was supposed to be superior, but because, whereas the prepared catgut is a somewhat expensive article, a horse's tail is a very cheap one. A notice of this use of horsehair was published by Mr. White's house-surgeon, Dr. L. W. Marshall, in THE LANCET of Dec. 2nd, 1876; and in the following month it was employed by myself, in the Edinburgh Royal Infirmary, in a case of chronic bursitis of the sheaths of the flexor tendons at the wrist, in which it seemed likely to be peculiarly serviceable. In this affection the bursa is distended both above the wrist and in the palm, the cavities thus constituted being connected by a constricted passage under the annular ligament; and it is desirable that both the expanded parts should be opened to give exit to the fibrinous concretions which are generally present (varying in size from that of a millet-seed to that of

[1] See a translation of Prof. Volkmann's paper in the Edinburgh Medical Journal, vol. xx., p. 794.

a small bean), and, further, that drainage should be provided for effused serum, the operation being performed antiseptically, in order to avoid the very serious inflammatory disturbance and suppuration which are otherwise apt to occur. I had previously used the caoutchouc tube as a drain in such a case, but I found a difficulty from the liability of the tube to be compressed by the tendons. This might, I thought, be overcome by the use of the horsehair drain, which at the same time would, for this particular purpose, be superior to one of catgut, because the catgut would probably be absorbed before the necessity for drainage would be over. Accordingly I cut down above the wrist, making my way between the tendons of the flexor sublimis to the distended sheath of the flexor profundis, and, as soon as this was opened, passed in a large bullet-probe, somewhat curved, slipped it along under the annular ligament, and pressed it forcibly towards the palm, so as to perforate the palmar fascia while avoiding injury to the palmar arch, and, having divided the skin over the point of the probe, dilated the opening in the fascia with dressing forceps, and then passed into the eye of the probe a substantial drain of horsehair, which had been well purified by steeping in a 1 to 20 solution of carbolic acid, and withdrew the probe, leaving the horsehair drain in its track. The drain answered admirably, and presented the further great advantage that it could be reduced in bulk in accordance with the diminution of the serous discharge, by drawing out as many hairs as might be desired; and in the course of three weeks, the last portions of the drain having been withdrawn, the wound healed without the occurrence of suppuration from first to last.

While the horsehair has the advantage over the catgut that it can be used when necessary over a longer period, it has, in some cases, the converse superiority that it can be not only reduced in bulk, but withdrawn altogether at an earlier period than is required for the absorption of the catgut; for the catgut, in process of organisation and absorption, becomes more or less incorporated with surrounding tissues through the medium of the cells of new formation which invade it, and, if an attempt is made to withdraw the drain in whole or in part, there will often occur inconvenient oozing of blood through the rupture of newly formed vessels. And if, on the other hand, the drain is left intact till the parts of the catgut within the wound are entirely absorbed, there remains a small granulating sore at the place of exit of the drain, which may retard for some days the complete healing of the wound. Further, the threads of the catgut, as they undergo organisation, are increased in bulk by the formation of the new cells, and their interstices are liable to be more or less choked, so as to interfere with effective drainage. The horsehairs, on the other hand, lie unchanged among the tissues, and their interstices remain to the last as effective as they were at the outset.

The next case in which I used the horsehair drain was one which you yourselves witnessed—viz., that of transverse fracture of the patella, treated by laying open the joint, drilling the fragments obliquely, and tying them together by means of strong silver wire. Being apprehensive that blood and serum might be effused into the joint to such a degree as to produce inconvenient tension unless a free exit was provided, I resolved to introduce a drain at a dependent part of the articular cavity; but I feared that, if a caoutchouc tube was used, it might be rendered inefficient by being compressed between the condyle of the femur and the neighbouring tissues. I therefore had recourse to the horsehair, introducing into the posterior and outer part of the joint a drain, about a quarter of an inch in thickness, by means of the dressing forceps employed as before described. It worked to admiration; for though there was, indeed, in the first twenty-four hours, a very copious sanguineo-serous effusion, as shown by the soaking of the antiseptic gauze, yet not the slightest swelling of the joint occurred, and, after nine days, the small remains of the drain, which had been previously reduced at successive periods, were withdrawn, to allow the puncture to close. The drain of horsehair was as pure and white[2] as if it had been merely dipped in water; having been washed quite clean of the blood which first occupied its interstices by the colourless serum which, after the cessation of the original sanguineous effusion, had been the only discharge. I was so much impressed with the satisfactory working of the horsehair drain in that case that we have since employed it in preference to the caoutchouc tube in all our wounds, and have had good reason to be pleased with the change. (If it be necessary to reintroduce a horsehair drain, it is readily done by taking a wisp of hair of half the thickness required, bending it in the middle at a sharp angle over a probe, and tying a piece of carbolised silk round it close to the probe, on withdrawal of which the drain is left with a rounded end which passes readily into the interior of the wound.)

In the case of this little girl the horsehair drain has worked perfectly well in spite of the pressure to which it was subjected. The flow of blood and serum was, in the first twenty-four hours, extremely free, but there was no appearance of the retention of any of it within the wound. On the occasion of the last dressing, two days ago, more than half of the drain was removed. That dressing took place after an interval of three days, and it would be superfluous to change the dressing to-day, were it not that we may, perhaps, be justified, by the further diminution of the discharge, in withdrawing the remainder of the drain entirely so as to permit its track to close.

I will now expose the limb before you. We take care that this is done under a full cloud of spray. We removed at the last dressings both the stitches of relaxation in the shape of thick wire sutures taking a substantial hold, and the stitches of coaptation, of horsehair, including only the margins of the wound. You observe that cicatrisation is almost complete, while there is not the appearance of a particle of pus. The skin is still, as it has been all along, free from inflammatory blush or puffiness. The child has suffered no more uneasiness than would have been anticipated had forcible extension been practised in a much less severe case, without the infliction of an external wound, and her constitutional disturbance has been equally trivial. The position of the limb is even better than at the conclusion of the operation, thanks to the effect of the elasticity of a substantial mass of cotton-wool bound down over the knee outside the antiseptic dressing, while we have the satisfaction of reflecting that the bones of the limb have been shortened only by the extent of the abnormal downward growth of the femur; and I think those of you who have had experience in surgery will allow that it would have been unjustifiable to have aimed at such a result without the use of antiseptic measures. If a joint is excised without such means, all prudent surgeons would agree that enough of the bones ought to be removed to ensure absence of tension.

On raising the limb, I find that the gauze dressing presents evidence of discharge, which, though of the nature of colourless serum, is still in sufficient quantity to make it prudent to retain the drain. We may, however, remove half of what yet remains, and you observe that I do this by withdrawing successive hairs without causing the least uneasiness to the child.

Allow me to direct your attention to the splint on which the limb is placed. It is a piece of Gooch's splint, a material introduced into surgery by Mr. Gooch, formerly a surgeon at Norwich, and exceedingly convenient for purposes like the present. It is made slightly longer than the limb, and as broad as the semi-circumference of the thigh, cut obliquely at its upper end to correspond to the line from the perineum to the great trochanter, and at its lower end it is excavated into a horseshoe to receive the point of the heel. Its flexibility in the transverse direction permits it to form a trough which is well padded with a substantial folded sheet made thicker opposite the tendo Achillis, and when it is bandaged to the limb, the horns of the horseshoe, together with the padding, form a satisfactory support to the sides of the ankle. The foot is kept slightly above the level of the groin, and a piece of thin mackintosh cloth over the part of the padding towards the nates sheds the discharge and prevents it from soiling the padding, while the exact quantity of effused serum can be correctly estimated. In the course of a short time, when the discharge becomes trifling or *nil*, a bandage steeped in waterglass (a mixture of the silicates of soda and potash) will be wound round the limb as it lies in the splint, so as to ensure absolute immobility.

Now, gentlemen, these various matters have been much more easily demonstrated to you here than they could have been in the ward. I was much struck with the difference between the theatre and the ward in this respect when showing in the ward to some strangers, after our lecture this day fortnight, the case of large granulating sore which I have brought before you here on several occasions. Our

[2] I used white horsehair in this case simply because I did not happen to have at hand any of the black, which is generally preferable, because the individual hairs are thicker, while the dark colour has the advantage of making them more conspicuous, especially when they are used for sutures.

class is not a large one, numbering only fifty, and I suppose not half that number accompanied me to the ward. Yet in order to show the ulcer, it was necessary that those gentlemen should arrange themselves in two rows, so as to form an alley to admit the light from the window, and even then they stood in one another's way, and only those who were very near the bed could see what would have been shown without any difficulty to the whole class at once in this place. In connexion with that case I may make some further remarks regarding the mode of teaching which we employ.

Let me remind you of the various important matters which that ulcer has afforded the opportunity of demonstrating. First, you recollect how putrid the sore was at the outset, and how we succeeded in purifying it once for all by applying to the epidermis soaked with putrid discharge a strong watery solution (1 to 20) of carbolic acid, which has a special power of penetrating the epidermis, and to the granulations a solution of chloride of zinc (40 grains to an ounce) which experience has shown to have an energetic antiseptic effect upon foul granulations. That we did really purify the sore by this application was proved to you by the fact that, being afterwards dressed with lint containing boracic acid, which is the mildest of our antiseptics, with a piece of prepared oiled silk interposed between it and the granulations, to protect them from the antiseptic, mild as it was, and to ensure constant moisture of the surface, yet when dressed after an interval of a week, the oiled silk, instead of being putrid as it would have been in twenty-four hours under a piece of ordinary lint, had no odour except that of oiled silk itself. The pus had remained free from putrefaction for that long period, though not directly acted on by an antiseptic at all.

You have also had demonstrated to you on that sore some very important truths regarding the properties of granulations. You saw me clip away with scissors a portion of the surface without occasioning the slightest pain to the patient, proving that the granulations constituted a protective layer destitute of sensibility.

Again, we made an accurate pattern of the ulcer in gutta-percha tissue, and on comparing it with the sore a week later we found that the pattern was already considerably larger than the granulating surface together with the cicatrising margin already forming round it. Thus you had ocular evidence of the truth that granulations have a tendency to shrink, this being one of the means by which sores are diminished in extent in the healing process.

You also observed how, when the ulcer was protected, as far as was in our power, from irritation, by excluding both putrefaction and the direct action of the antiseptic, the formation of the epidermic pellicle at the edge proceeded with a rapidity never seen under water dressing.

Lastly, how instructive was the result obtained by skin-grafting. You saw that whereas before this operation was performed cicatrisation took place only at the edge of the sore, a thin superficial layer of integument, involving little more than epidermis, having been removed with a sharp knife from the inner side of the arm, and the shaving having been cut up on the thumb-nail into small bits, which were placed in succession, with the raw surface downwards, on the granulations, the grafts so planted became each one a centre of epidermic growth on the sore. Thus was illustrated the general fact in pathology, that new structures formed in the repair of injuries are composed only of tissues similar to those in the immediate vicinity, and the equally fundamental fact in physiology, that severance of a part from connexion with the body is not followed by immediate loss of its vitality.

You remember also how, having sprinkled the granulating surface with a sufficient number of grafts, we placed upon the sore the remaining portion of the shaving, about as large as a fourpenny-piece, and this, as you afterwards saw, took root and adhered by its entire under-surface, thus teaching us two great truths. First, it showed that the surface of granulations, if thoroughly healthy, may unite not merely with granulations, but with a freshly-cut surface, combining, so to speak, union by second intention with union by first intention. And, in the second place, it afforded of itself conclusive evidence of a most important pathological fact not yet universally recognised, that granulations have no inherent tendency to form pus; for, before sufficient time had elapsed to cause the death of the portion of integument as the result of its severance from vascular connexion with the rest of the body, all pus-formation from the granulations on which it was placed must have ceased; and not pus-formation only, but serous oozing also, which would have been equally incompatible with union of the two surfaces. No sooner did this piece of living dressing, perfectly unstimulating, chemically or mechanically, protect the granulations, than pus-formation and exudation of liquor sanguinis were alike suspended.

These, you may say, are very simple matters. Some of them, at least, you might all have done for yourselves. Any one of you might, as a dresser, clip away a piece of granulations and see that the proceeding was painless, or any of you might equally easily make a pattern of a granulating sore and prove to himself its shrinking tendency. You might perhaps have opportunities for performing skin-grafting; and might, for aught I know, draw for yourselves the inferences to be deduced from it.

But, on the other hand, you might very likely fail to do some or all of these things even in the entire course of your studentship; and if you do not learn these matters when students, you may perhaps never learn them at all. Some of you may become in course of time "pure physicians," and in that case you will have no opportunity of studying the healing of sores; and yet it is a subject which concerns the physician as well as the surgeon. If the intestines become ulcerated in typhoid fever, the sores must heal by granulation and cicatrisation in a manner precisely similar to that which occurs in an ulcer of the leg. But the physician has no opportunity of witnessing this healing process during life; and when he sees its effects on post-mortem examination, they are probably marred by the results of decomposition. And so with a multitude of other things, which it is easy for me to prove to you by demonstration here, but which the physician can only learn by inference. For medical diseases differ from surgical diseases not so much in their nature as in their situation; and the same great principles of pathology, and to a large extent of practice also, must guide alike the physician and the surgeon.

Now, these great principles may often be illustrated by extremely simple facts, such as those which you have witnessed in that ulcer. But such simple and rudimentary, or, so to speak, homely, truths are not only much more easily demonstrated in the theatre than in the ward, but would very likely never be taught in the ward at all. In ward visits the surgeon passes from bed to bed, and points out the most striking features of interest in the various cases; but matters of everyday experience, though concerned with the most fundamental principles of our art, are not likely to receive attention except from someone who is appointed to discharge the duty of impressing upon his class by way of demonstration, not only points of unusual interest, but the most commonplace facts, which, though less attractive, are, in truth, more important to the student.

Thus our clinical course resembles in so far a systematic one that it is our duty, as the material at our disposal permits, to illustrate all departments of general surgery *ab initio* every session. And meeting you so frequently as I do—twice a week,—with an attendance on your part as regular as is given to a systematic course, I am encouraged to keep my eyes open throughout the session for the materials requisite for such illustrations.

But though sound general principles are the most important things that we can discuss together, they are, of course, far from being all that we consider. Every case of special interest is brought before you, its diagnosis is carefully considered, and the method of treatment to be adopted is discussed in all its details; and then, if an operation has to be performed, whether, as is often the case, in the course of the lecture, or at some other time, you are prepared to profit by watching its performance, having all the steps of the procedure clearly in your minds beforehand.

I may take this opportunity of expressing my sincere regret that certain expressions which I employed before I left Edinburgh should have seemed capable of interpretation as casting the remotest possible slur on the surgeons of this metropolis. Nothing certainly was further from my intention. I did, indeed, while speaking under circumstances peculiarly difficult and embarrassing, allow an expression to escape my lips which I should not have uttered under any circumstances had I supposed that my remarks were likely to be published; and I am truly sorry for the needless offence which I have thus given. For the leading surgeons of London no one, I venture to say, entertains higher respect than myself. I referred not to the London teachers, but to the system on which clinical surgical lectures were given in London; which, so far as my knowledge extended, seemed to me essentially inferior to that in

use in Edinburgh; partly because they were not demonstrative, and partly because, being given at rarer intervals and in conjunction with one or more colleagues, they could not, from the nature of things, approach to the characters of a complete course.

Not that I wish to underrate such clinical lectures in London as I refer to. In proportion to the ability and experience of the lecturer such discourses have their high value. But referring, as they do, to cases which are not present before the student, and which many of the audience may perhaps never have seen at all, they might often, except for the effects of voice and manner, be as well read as attended. Such lectures are in reality far more ambitious and involve greater talent and literary effort than ours, which are comparatively humble performances, standing much in the same relation to a course of systematic surgery as anatomical demonstrations to lectures on anatomy. But, simple as they are, they fill a place in the medical curriculum which, I believe, is second in importance to no other, and which cannot be filled adequately either by clinical lectures otherwise conducted, or by bedside teaching or tutorial instruction.

My own conviction of the importance of the subject is, at least, sufficiently shown by the fact that upon the question whether or not arrangements could be made to enable me to conduct my course here exactly in the same manner that, following the example of Mr. Syme, I had found so advantageous in Edinburgh, depended my acceptance or otherwise of the highly honourable offer of a clinical chair in King's College.

[In publishing this lecture I wish to add two remarks in order to avoid misunderstanding. First, that I do not omit bedside instruction, and always warn my class that no lectures can possibly take the place of their own individual work at the bedside, since it is essential, in order that the student may become a competent practitioner, that he should handle diseases as well as see them, and not only witness their treatment by others, but be personally concerned in their management by holding dresserships, &c., in our hospitals. Secondly, I desire to add that, since I used the expressions in Edinburgh above referred to, I have been informed that clinical surgical teaching in London has undergone considerable changes since I was a student, both as regards giving it a more demonstrative character, and in greater frequency and regularity of meetings of the classes. The London schools are both numerous and independent, and the changes to which I allude have, I understand, taken place in different degrees in different institutions. Hence, I can quite understand that my general remarks, made, as I would repeat again, without any view to publication, may have done individual injustice, for which no one could be more sorry than myself.]

CASE OF CEREBRO-SPINAL MENINGITIS, AND A CASE OF TUBERCULAR MENINGITIS, OCCURRING IN THE SAME FAMILY, AT THE SAME TIME, AND SIMULATING EPIDEMIC CEREBRO-SPINAL MENINGITIS.

By BYROM BRAMWELL, M.D.,

PHYSICIAN AND PATHOLOGIST TO THE NEWCASTLE-ON-TYNE INFIRMARY, JOINT LECTURER ON CLINICAL MEDICINE AND PATHOLOGY IN THE UNIVERSITY OF DURHAM COLLEGE OF MEDICINE, NEWCASTLE-ON-TYNE.

ON September 3rd, 1876, I was called to see A. B., a delicate-looking boy, aged eight years. His illness had commenced seven days previously with vomiting and headache. For two months he had suffered from an abscess behind the left ear. I found him vomiting grass-green fluid. Solids and liquids were ejected as soon as swallowed. He complained of frontal headache and of general malaise. The face was pale, the expression bright and cheerful. The tongue was clean and moist. The pulse 112; the temperature 101° F. The abdomen was somewhat distended, and there was slight iliac tenderness. There was neither eruption, gurgling, nor diarrhœa. A purulent discharge was escaping from an abscess in the left mastoid process. The optic discs were natural.

On September 4th he was *in statu quo*. On September 5th there was a marked improvement. The pulse was 80; the temperature 99°. The vomiting was less frequent and less severe. The hydrocyanic mixture, which was ordered at the first visit, was repeated.

Diagnosis.—Considering the previous history, and the progress of the case, I came to the conclusion that the symptoms were due to an extension inwards of the inflammatory mischief in the mastoid cells, an opinion which was shared in by my friend Dr. Page, who saw the case with me, and took charge of it after this date, and to whom I am indebted for the following notes.

On September 6th there was a slight internal squint of the left eye.

On September 7th the squint had disappeared. He was very much better. The headache had gone. The vomiting had ceased. The pulse and temperature were normal.

On September 8th Dr. Page was asked to examine A. B.'s sister (X.Y.), a delicate scrofulous girl, aged nine years. She had been more or less ill for seven months with an abscess in the left tibia. He found her complaining of headache and great debility. She had several times vomited her food. For several nights she had been feverish. The tongue was clean; the bowels costive. A well-marked rose-coloured rash, exactly resembling that of typhoid, was present on the abdomen. The pulse was 110; the temperature 101°.

On September 9th a second crop of rose-spots appeared on the abdomen. The headache was intense; the fever greater. Dr. Page, considering this a case of typhoid, came to the conclusion that the boy, A. B., had passed through a mild attack of the same disease.

The girl, X. Y., continued to suffer from the same symptoms until September 19th, when she became comatose. I saw her on September 21st; she was quite unconscious; the pupils dilated and insensible to light; constant nystagmus of both eyeballs was present. The media of the eye were unusually clear; the veins of the fundus large and markedly congested. There was no œdema of the disc; no tubercles on the choroid. Every now and again convulsive twitchings occurred in the right arm and leg. The flexors were alone affected, but the convulsions had no definite character. The urine and fæces were passed involuntarily. There was no cough, and the lungs were healthy. The pulse was 120; the temperature 102·4°.

At the same visit, I also examined A. B. He had continued to convalesce until September 18th. On the morning of that day he was very weak and low-spirited, and complained of pain and stiffness in the muscles of the back of the neck. It was noticed, too, that the head was slightly retracted. I found him in great suffering, the expression pitiable in the extreme, the attitude most peculiar. He was unable to lie on his back, because of pain and tenderness over the region of the sacrum, but lay on his belly, resting partly on the palms of his hands, chiefly on a pile of pillows placed under his chest and chin. The head was completely retracted, the occiput being between the shoulders. The spine was arched back to a great degree. Had he been on his back, the position would have been that of complete opisthotonos. Every now and again an increase in the tonic spasm occurred, the head became more retracted, and the back more arched. There was not then, nor at any period of the case, any spasm of the muscles about the mouth. A well-marked stridor accompanied inspiration, and the boy complained of difficulty in breathing. There was also considerable difficulty in swallowing, caused, no doubt, "by the larynx being firmly pressed against the spinal column by the extreme tension of the anterior muscles of the neck (sterno-thyroid, thyro-hyoid, and sterno-hyoid)."[1] On examining the sacrum nothing abnormal could be detected. The slightest touch on each side of the middle line caused intense agony. No pain was complained of when percussion was made over the spines of the vertebræ. The pulse was 120, very weak; the temperature 101° F. Warm fomentations over the sacral region, and a mixture containing opium and chloral hydrate, were prescribed.

We again changed our diagnosis, regarding both cases as epidemic cerebro-spinal meningitis. In the case of the boy the diagnosis of cerebro-spinal meningitis was fully warranted by the symptoms. In the girl the symptoms were chiefly cerebral, but cases in which coma and cerebral symptoms have been the leading features are described.[2] It must, how-

[1] Ziemssen's Cyclopædia of the Practice of Medicine, vol. ii., p. 709.
[2] Russell Reynolds, vol. i., p. 501.

ever, be admitted that in such cases the onset is generally sudden, the symptoms intense from the first, and the duration short—a few days.

The fact that the two cases occurred at the same time and in the same place led us to believe that they depended upon one and the same cause. Hence the diagnosis, *epidemic* cerebro-spinal meningitis. The extreme rarity of this disease in England was, of course, against this view. Some cases, however, had been reported in the medical journals shortly before the occurrence of this case, and I myself had met with one in hospital practice. The presence of the rose-coloured rash which led Dr. Page to suspect typhoid, though undoubtedly very rare in epidemic cerebro-spinal meningitis, has been observed.[3]

On September 21st the boy was worse; the pain in the back was excruciating. The dose of the narcotic was increased, the warm fomentations were discontinued, and ice-bags substituted. Champagne in small quantities was prescribed.

On September 23rd he complained of shooting pains in the lower extremities, and of pain in the abdomen about the region of the umbilicus. There was very marked hyperæsthesia of the skin of both thighs and legs. Marked reflex movements and complaints of pain were caused by tickling the soles of the feet. There was, too, some difficulty in making water. It may here be noted that this symptom did not recur.

On September 28th he was *in statu quo*, taking plenty of nourishment, and soothed by the narcotic.

On September 29th the girl died. The condition of coma had continued since September 19th. No fresh symptoms worthy of mention had developed.

Autopsy.—The post-mortem examination was made thirty-six hours after death. The body was extremely emaciated. The scalp and calvaria were intensely congested. The membranes of the brain and the vessels on the surface of the convolutions were gorged with blood. The convolutions were flattened to an extreme degree, and the sulci effused. The membranes over the hemispheres were fairly normal. At the base the membranes were greatly thickened, opaque, and crowded with tubercles. These appearances were most marked in the Sylvian fissures and over the posterior half of the base. The membranes about the optic nerves and optic commissure were little affected. An excess of fluid escaped from the lateral ventricles, which were somewhat dilated. The brain-substance was markedly soft and œdematous. The corpora quadrigemina and cerebellum seemed normal. The spinal cord and its membranes were normal. There was no purulent formation within the skull. No tubercles were found, even after careful examination, in any other part of the body. There was an unhealthy ulcer in the left tibia, and the bones of the left wrist were carious. The result of the post-mortem was to make us adopt our original diagnosis—that the cerebro-spinal meningitis from which the boy was undoubtedly suffering was not epidemic, but was due to extension inwards of the diseased action in the left temporal bone.

Subsequent progress of A. B.'s case.—On Oct. 1st he was much better; free from pain; the arching of the spine much less. On Oct. 4th he could turn himself on to his back, and seemed in every way wonderfully improved. On Oct. 8th I was called up at 3 A.M. to visit him. The vomiting had suddenly returned, and he was complaining of headache and pain in the abdomen; the abdominal pain seemed increased by pressure. The pulse was 120; the temperature 101° F. A full dose of morphia in a wineglassful of champagne was administered. At 10 A.M. he was free from pain and quite cheerful; the pulse had fallen to 100. On Oct. 9th he seemed greatly better; the pulse and temperature were normal; he could turn and move about without any difficulty, though the head was still slightly retracted. At our evening visit we found a marked change for the worse: the patient was collapsed; pulse 130, barely perceptible; the retraction of the head and spine was as bad as ever; he complained of severe shooting pains in the spine and legs; the hyperæsthesia of the thighs and legs had returned. On Oct. 10th he died. He was quite sensible and in extreme pain until the very last. I may, perhaps, here remark that there was never any paralysis, never any tenderness on percussion over the spines of the vertebræ.

The post-mortem was made forty hours after death, in the presence of Drs. Page, Drummond, and Rowell. The body was wasted to an extreme degree. Rigor mortis had passed off. The scalp and calvaria were natural, with the exception of the abscess in the left mastoid cells. The middle and internal ear seemed natural. The seventh nerve, at its entrance to the temporal bone, was red and swollen; it was fully twice the size of its fellow on the opposite side. The membranes adjacent to the diseased bone were inflamed, but there was not, so far as we could make out, any direct communication between the mastoid abscess and the cranial cavity. The membranes over the hemispheres were in places thickened and opaque. The membranes at the base were also slightly thickened. Over the inferior surface of the cerebellum there was a layer of greenish-yellow lymph. There were no other marked lesions within the cranial cavity. There were no tubercles, and the brain itself was healthy. The spinal membranes in their entire length were in a state of intense purulent inflammation. An eggcupful of thin, purulent fluid escaped when the membranes at the lower end of the spinal canal were opened. An abscess the size of a walnut, consisting of thick creamy pus, was embedded in the midst of the chorda equina. The cord itself was healthy. The other organs were healthy.

Newcastle-on-Tyne.

[3] Flint's Practice of Medicine, p. 64.

CASE OF
INGUINAL PARAMETRITIS PUERPERALIS.

By J. MATTHEWS DUNCAN, M.D.,
OBSTETRIC PHYSICIAN TO ST. BARTHOLOMEW'S HOSPITAL.

S. S——, aged twenty-five, has had three children, the last born four weeks and four days before her admission into the hospital. She recovered well until a week after her confinement, when she had a prolonged rigor. Shortly after this rigor she noticed a lump in her right groin, which, however, gave her little trouble at first. A fortnight after her confinement she left the house; and in two or three days after this, the lump in the groin began to swell and be painful.

Extending from near the right anterior superior spine to the body of the left pubic bone is a prominent half-pear-shaped mass, the smaller end being near the iliac spine. This mass communicates a feeling of being filled with fluid. At its broadest part it is two inches and a half, measuring upwards from Poupart's ligament. Per vaginam, the uterus and all that can be felt is found to be soft, mobile, and healthy. Only, in the right anterior quarter of the pelvic brim, pressing high up, the finger meets fulness, produced by the above described swelling overhanging the horizontal ramus of the right pubic bone.

The abscess was laid open, with antiseptic precautions, and dressed. The finger introduced into the cavity of the pus found it to be limited to the region of the external visible swelling.

Since the evacuation of the abscess the patient has made uninterrupted and satisfactory progress.

Remarks.—There can be no doubt that this is a case of puerperal abscess, nor that it is of uterine origin. It is also certainly parametric, not perimetric, the cellular tissue in the region of the inguinal canal being affected. Further, the abscess exists while the uterus and its immediate neighbourhood is, as far as the most careful examination can show, in a perfectly healthy condition.

The word parametric is, in this case, used in a somewhat strained manner, but yet quite in accordance with true theory. It is, of course, understood that the prefix *para* merely implies the fact of the abscess being in the cellular tissue not intraperitoneal; but the rest of the word (*metric*) implies that the suppuration took its causal origin in the uterus.

There are two ways of explaining this origin. One is that the termination of the round ligament was, separately, inflamed, and that the abscess arose in consequence of this inflammation, and around its termination in the inguinal canal. There are no facts leading up to this explanation, nor parallel with it. The other explanation is more in accordance with the history of other parametric abscesses, such as those in the sheath of the psoas muscles and even in the cellular tissue around the kidneys, and many abscesses with which surgeons are

familiar. This explanation is that the inflammation, originally uterine, extended along the round ligament, affecting the cellular tissue as it advanced; and that, while the inflammation delitesced in all other parts, it advanced in the region of the inguinal ring to suppuration.

Cases of this kind, though far from rare, have seldom been fully described. They are often called iliac engorgements, or iliac abscesses, but they cannot be said to invade the iliac fossa at all. Their more general denomination is pelvic, and this implies an affection of the true pelvis. But it is really an affection neither of the true nor of the false pelvis, but of the inguinal canal, and is justly designated inguinal parametritis.

Frequently it does not advance beyond the stage of phlegmon or inflammatory induration, and it seems likely that, in this case, it would not have done so had not the poor woman unfortunately gone out of doors while the disease was still present. This exposure made her worse, and induced suppuration.

The disease is frequently chronic or stationary when in the stage of phlegmon or mere inflammatory induration, and it was so for some days in this case. To make it disappear, rest in bed is generally sufficient, and an epispastic is often valuable in hastening the process. But it must be admitted that the blister, instead of primarily inducing subsidence of inflammation and swelling, leads to ultimate cure in a manner unwished for, yet not altogether unsatisfactory—namely, by inducing suppuration, just as the exposure and walking did in this case.

Brook-street.

A CASE OF

DIAPHRAGMATIC HERNIA OF THE ENTIRE STOMACH THREE YEARS AFTER THE CURE OF EMPYEMA.

BY ROBERT MACNAB, M.D., F.R.C.S.Ed.,
SURGEON TO THE WEST SUFFOLK GENERAL HOSPITAL.

PERHAPS the following case, which has occurred in my practice, may be of interest to professional readers.

On the 13th of July, 1874, I aspirated the left pleural cavity of E. H——, a young lady of fifteen years of age, for empyema, and removed several pints of blood-stained pus. On the 19th, finding that the fluid was rapidly re-accumulating, I did not repeat the operation, but at once made an incision into the chest between the third and fourth ribs, about two inches and a half below the clavicle, and introduced a large-sized perforated india-rubber tube as far as it would go into the pleural cavity. I selected this spot from there being a decided tendency to point in this situation, fluctuation being very distinct. The tube was retained in position, and prevented from slipping into the chest by the method recommended by Professor Lister—viz., by passing a double thread, upon which several knots had been tied, through its protruding extremity, carrying one thread to each side of the opening, and fastening them down to the chest walls by strips of adhesive plaster. A large thick, antiseptic dressing was placed over all. Enormous quantities of pus continued to escape from the chest—sometimes while patient was asleep, saturating the dressing, and flooding the bed down even to the feet—till November, when the quantity discharged lessened, and I began to withdraw the tube little by little; and I find, by my notes, that on the 6th of that month I removed it altogether, and introduced one of smaller calibre.

On the 19th of December the discharge had so much diminished that I withdrew the tube entirely, and sealed up the wound antiseptically.

During the whole of this time my patient coughed very little, took large quantities of nourishment and stimulants, and improved in general health day by day. The affected side did not fall in to any appreciable extent, a slight flattening under the clavicle, where the bulging had before been most prominent, being all that was apparent, and breath-sounds returned to a large portion of lung anteriorly, extending from the clavicle to about an inch above nipple. From this time I saw little or nothing of my patient, and I congratulated myself on the perfect success of a plan of treatment which was then still *sub judice*, for nothing could have been more striking than the rapid recovery she made from almost a moribund condition—indeed, she was declared to be so by one or two medical men who saw her before I removed the pus from her chest—to perfect health from the first day the tube was introduced.

My attendance terminated with the advice that she should pass the winter months out of the Eastern Counties for a year or two, and accordingly for the last two years she has wintered at Torquay. During this time her health has been excellent, and she has increased in weight and stature. The last summer she passed almost entirely from home, visiting amongst her friends.

On Tuesday, the 9th October, nearly three years after her recovery from the empyema, after eating very heartily of solid food at breakfast and dinner, she was seized in the afternoon with violent sickness and retching. Domestic remedies having failed to relieve, I was sent for about ten at night. I found her still suffering from urgent nausea and retching; her face was pale and pinched, pulse small and quick, and her feet and hands were cold. *The abdomen was markedly retracted;* there was no swelling in either groin; and *no pain was referred to any particular situation.* Finding there had been no evacuation of the contents of the stomach, notwithstanding the severe retching, I at once administered an emetic of mustard and hot water, which quickly resulted in the vomiting of three or four pints of undigested food. Relief was immediate and decided. Reaction rapidly set in; urgent sickness ceased, countenance regained its normal complexion, extremities became warm, and she expressed herself as feeling quite well, and only anxious to go to sleep. In this condition I left her, feeling sure I should hear in the morning that she had passed a good night and was quite recovered from her attack. Such, however, was not the case. In an hour or so after I had left the sickness returned, now accompanied by yellow bilious vomiting, and continued unceasingly during the night. In the morning, the condition in which I had found her on the previous evening was exaggerated; sickness continuous, now with dark-brown coffee-ground-like vomit, a mouthful being pumped up every few minutes without the slightest exertion. Hydrocyanic acid, with effervescing draughts and with lime-water, lime-water with milk, ice and champagne, were rejected immediately, given even in the smallest quantities; and sinapisms to the epigastrium and stimulating enemata gave no relief. The symptoms continuing, collapse became more and more pronounced till Friday morning, when she sank and died.

Strongly suspecting that her former illness had something to do with the rapidly fatal symptoms I had just witnessed, and judging that I should find some adhesive obstruction high up in the alimentary canal, in the vicinity of the stomach or diaphragm, I urgently requested a post-mortem examination, which was very sensibly allowed.

Assisted by an able house-surgeon of the West Suffolk General Hospital—Mr. H. Fuller,—I made an examination of the body twenty-four hours after death. The body was well nourished; mammæ well developed; and about an inch of subcutaneous fat over the abdomen. Left side of the chest full; seemed to be fuller than the right, and emitted a clear percussion-note. There was a small oval-shaped cicatrix in the skin, about two inches and a half below the left clavicle. On opening the chest by removing the sternum the contents of the left side at once protruded, lung-substance showing on the surface of the bulging tumour. On cutting into this—which proved to be a flattened, partially compressed portion of lung, about the size of an adult hand, and about an inch thick—a hollow, peritoneum-covered viscus was displayed. At first I took it to be the colon; but on further examination it was found to be the stomach—the entire stomach—from about two inches above the cardiac orifice to the pylorus. It filled the whole of the pleural cavity, with the exception of the space occupied by the portion of lung already mentioned, was covered by omentum, and had contracted no adhesions to the chest walls, but lay in a smooth cavity extending from behind the clavicle to the diaphragm; it was congested, and dusky in colour. On continuing the examination, and following the course of the stomach to ascertain its method of entrance into this unusual situation, an aperture in the left tendinous portion of the diaphragm, sufficiently large to admit the first three fingers and thumb placed cone-fashion, was discovered, and through this the stomach had protruded itself into the cavity of the pleura. The margin of the aperture was smooth, well defined, and ring-like, and allowed the free play of the gullet

and duodenum. *There was no stricture*, the opening being large enough to admit the three fingers and thumb easily, by the side of the œsophagus and pyloric end of the stomach. The heart was pushed over to the right side, its apex impinging against the wall of the chest under the right nipple. Our examination was carried no further.

The question arises, at what time in the history of the case did this hernia of the stomach take place? It could not have followed immediately upon, or taken place at, the time of the aspiration, or symptoms of strangulation would have shown themselves, and there were none; on the contrary, she was very much relieved by the operation. And it could not have taken place while the tube was in the chest, or the purulent contents of the pleura would have escaped into the abdomen, and excited peritoneal mischief there. There was no symptom of such during the progress of the case, nor evidence of it at the post-mortem; and, moreover, the frequent auscultations practised during the treatment would have at once detected so important a dislocation; and the severity of the retching at the commencement of the fatal illness could not have caused it, for so far from there being any evidence of laceration or effusion within the chest to show that such an enormous hernia had taken place suddenly, the stomach had made quite a smooth-walled home for itself, and even bulged the chest-wall. Besides this, the evidence of patient's mother, who says that during the past year her daughter had constantly complained of severe pain in her left chest about an hour after each meal, and frequently remarked upon strange gurgling sounds which she heard high up in her chest under the collar-bone, and that also of the medical man who saw her at Torquay last winter, who noticed the fact of the diseased side not having fallen in, and said he considered it a marvellous result to find no deformity after the method of treatment that had been adopted, would go to show that the stomach was then in the chest. The probability is that the floor of the chest, thinned possibly by the ulcerative process which went on while pus continued to be discharged, and having no superincumbent lung to retain it in position, was pushed up before the distended stomach, gave way, and gradually permitted the hernia.

In conclusion, I hope the history of this case may not aid in deterring anyone from the treatment of empyema by the drainage-tube, but on the contrary add to the numerous evidences of its efficacy, as the post-mortem appearances here showed how perfect had been the cure, everything in the chest being quiet, disappearance of lung-substance almost complete, no ponded-up collections of pus, and no signs of any irritation whatever. Excluding the accidental hernia the case had been a perfect cure.

Bury St. Edmunds.

A Mirror OF HOSPITAL PRACTICE,

BRITISH AND FOREIGN.

"Nulla autem est alia pro certo noscendi via, nisi quamplurimas et morborum et dissectionum historias, tum aliorum, tum proprias collectas habere, et inter se comparare.—MORGAGNI *De Sed. et Caus. Morb.*, lib. iv. Proœmium.

MIDDLESEX HOSPITAL.

THREE CASES OF STRANGULATED INGUINAL HERNIA; OPERATION IN EACH CASE WITHOUT OPENING THE SAC; RECOVERY.

(Under the care of Mr. GEO. LAWSON.)

AN operation was performed in each of the three cases of strangulated oblique inguinal hernia here recorded, and the protruded intestine returned without opening the sac. When the hernia can be reduced by a simple division of the external stricture, and without exposing the intestine, the patient is naturally exposed to far less danger than when the sac is opened; but, unfortunately, in a large number of cases of strangulated hernia, and especially in the inguinal variety, it is absolutely necessary to open the sac, either to relieve the stricture within the sac, or else to ascertain the condition of the bowel, in order to decide whether it is advisable or not to return it within the cavity of the abdomen. It is important to note that all the patients were taken to the hospital at an early stage. In the first two cases the symptoms of strangulation were most acute, but as only four or five hours had elapsed from the first symptoms of strangulation, there was reason to hope that the bowel was not much damaged, and that if it could be returned it would soon recover from the effects of the constriction to which it had been subjected. These cases illustrate very clearly the advantages of an early operation in all cases of strangulated hernia.

In Cases 1 and 2 the symptoms were so acute that there was reason to fear that if the operation were delayed some hours a fatal result would follow. In Case 2 the strangulation had existed only four hours, and yet the bowel was evidently considerably damaged, for pain, tympanites, and vomiting continued for three days after the operation, but gradually yielded to fomentations and opium. All the patients recovered.

CASE 1. *Strangulated oblique inguinal hernia; operation without opening the sac; recovery.*—William K——, aged sixty-four, a labourer, was admitted on July 9th last, suffering from a very acute strangulation of an inguinal hernia on the right side. The hernia had existed since the previous September, but was easily reducible by the patient himself. He had never worn a truss. On the evening of his admission into the hospital, whilst walking, a large portion of the bowel suddenly came down into the scrotum. Pain and vomiting quickly followed. When he reached home he made many trials to return the hernia, but failed. The pain and sickness increasing, he was taken to the hospital. Ice was applied to the tumour, a full dose of opium was given by the mouth, and gentle taxis was applied by the house-surgeon. Although only four hours had elapsed since the descent of the hernia, the symptoms were most intense. The belly was tympanitic. The tumour, the size of the fist, was very tense and tender. There was severe pain in the abdomen, accompanied by stercoraceous and almost incessant vomiting. Mr. Lawsom was sent for, and determined at once on operating. The patient having been put under ether, a small incision, about an inch and a half in length, was made over the neck of the tumour, and the external ring, which was tightly girting it, was divided, but the sac was not opened. With a little manipulation, the contents of the sac were returned into the abdomen. The wound was closed with two sutures, and a pad, with a little weak carbolic acid lotion (one part in a hundred of water) was applied, with a bandage, and the patient placed in bed with his legs bent over a pillow. All symptoms ceased immediately after the operation. The bowels acted on the eighth day after a dose of castor oil, and on the twelfth day the wound was completely healed, and a truss was ordered.

CASE 2. *Strangulated oblique inguinal hernia; operation without opening the sac; recovery.*—William L——, aged thirty-eight, a coachman, was admitted on Nov. 8th last, suffering from an acutely strangulated inguinal hernia. He had been ruptured for over twelve months, but had never worn a truss, and had been always able to return the hernia himself. About two hours before his admission he was riding a horse, when the hernia suddenly descended, but this time it was much larger than on any previous occasion. He went home and endeavoured to reduce the hernia, but without success. As the belly was very painful, and he began to vomit, he was taken to the hospital, where ice was applied to the tumour, a full dose of opium given internally, and a little gentle taxis tried. The symptoms, however, rapidly increased, the pain in the belly became very severe, the vomiting stercoraceous and frequent, and the tumour, about the size of an orange, very tender to the touch, and tense. Mr. Lawson saw the patient between four and five hours after the descent of the hernia, and as the symptoms were urgent, at once decided to operate.

The patient having been put under ether, an incision was made over the neck of the tumour, upon the external abdominal ring, which tightly gripped the hernia. The ring was nicked freely with a hernia-knife, and the intestine returned into the belly without opening the sac. The wound was closed with sutures, and a pad of lint, wet with a little weak carbolic-acid water, was bandaged firmly over the wound. Half a grain of extract of opium in a pill was given every four hours. He was sick three times after the operation, but next morning he felt easier, and the pain in the belly was less.

On the 10th he was still frequently sick, but vomited only

the contents of the stomach. Fomentations to the belly were applied, and opium pills continued. The wound looked well, and was nearly united. On the 11th the sickness had ceased, but there was still pain in the belly, which was rather tympanitic. On the 12th the tenderness of the belly had passed away, and the opium pills were omitted. The patient continued from this time to do well. On the 21st, twelve days after the operation, the wound was quite healed. A truss was ordered, and on the 30th the man left the hospital.

CASE 3. *Strangulated oblique inguinal hernia; operation without opening the sac; recovery.*—Edward W——, aged twenty-three, a porter, was admitted on Dec. 4th last suffering from a strangulated oblique inguinal hernia of the right side. He was ruptured last Easter for the first time whilst lifting a heavy weight. He had worn a truss ever since. On the morning of his admission, at about 6 A.M., whilst coughing, the hernia again came down, and he was unable to reduce it. Feeling sick, and having pain in his belly, he applied to the hospital, and was admitted at about 8 o'clock, two hours after the descent of the rupture. Ice was applied over the tumour, opium given by the mouth, and the taxis was tried, but without success. As the symptoms were not urgent, this treatment was continued until 2 o'clock, when Mr. Lawson saw the man. By this time undoubted symptoms of strangulation had set in; there was then a tense irreducible inguinal hernia filling the right side of the scrotum. There was dragging pain in the abdomen, extending downwards from the umbilicus, together with regurgitant vomiting of dark-green bilious matter.

As the symptoms were now becoming urgent, Mr. Lawson decided to place the man under ether, and, if he did not succeed in returning the hernia by taxis, to operate. Ether was accordingly administered, and as the hernia would not yield to moderate taxis, a small incision of about one and a half inches in length was made over the tumour upon the external abdominal ring, which was apparently the seat of constriction. This was divided, and the bowel was returned within the abdomen without opening the sac. The wound was closed with two sutures, and dressed as in the other two cases.

The patient received immediate relief from the operation. The pain and vomiting ceased. On the fifth day after the operation the bowels acted voluntarily. On December 20th the wound was healed. On December 26th the patient left the hospital quite well, and wearing a truss.

LONDON HOSPITAL.

PROGRESSIVE PERNICIOUS (OR IDIOPATHIC) ANÆMIA; RETINAL HÆMORRHAGES AND DOUBLE OPTIC NEURITIS; MICROCYTHÆMIA; EPISTAXIS; DEATH; NECROPSY.

(Under the care of Dr. STEPHEN MACKENZIE.)

THE following careful record of a rare malady will doubtless be read with interest.

W. J——, aged ten years, a schoolboy, was admitted on Sept. 5th last. His father and mother were alive and healthy, and had several other children, who enjoyed exceedingly good health and looked quite well. The patient had scarlet fever, measles, and whooping-cough, previous to his fourth year. He had had good health up to three months before admission, being, however, rather subject to coughs and colds. Had lived in fair-sized rooms in the east-end of London all his life.

Three months before admission, he began to get white, like wax or a dead body. His father said at the same time he began to feel weak, and could not run about. He was drowsy and giddy, the giddiness coming on especially on getting up; it was not so bad when he lay down. He had a constant frontal headache, not severe, but gradually getting worse. His head ached especially on getting up. His head used to perspire so much as to wet the pillow, but the rest of the body was free from perspiration. He had frequent nausea, but did not vomit. Two months before admission, he left school, but went out occasionally, though he did not care for the exertion. He never felt warm. His appetite was good. One month before admission, had to take to his bed, he felt so sick and giddy, and could not walk about. He complained of earache, and had some discharge from right ear. He had to go home from school occasionally, the pain in the ear was so great; it lasted on and off for about a month. His bowels were regular. His face was thought to be puffy in the morning, but the hands and feet were never noticed to be swollen. His symptoms all became progressively more severe until admission. Though nausea was constant, his mother said he had only vomited once after some "oil."

His condition on admission was as follows:—A dark-haired boy with brown irides, somewhat wasted. Skin everywhere extremely pallid, having a waxy or ivory-like appearance. No œdema of face. Lips, gums, tongue, mucous membrane of nose, and conjunctivæ very pale. Chest well formed; lungs normal. Cardiac impulse half an inch outside and an inch below left nipple, heaving; a systolic thrill over cardiac area; cardiac dulness extended from left margin of sternum upwards to third rib; and to left half an inch outside nipple line. Systolic murmur loudest at apex and bottom of sternum, but heard over aortic and pulmonary valves. Hepatic dulness from fifth rib to margin of thorax. Splenic dulness not increased; spleen cannot be felt. Lymphatic glands just to be felt in left axilla under jaw, behind right ear, and in groins; little, if at all, enlarged. Hearing in left ear good, and in right somewhat defective; has a little pain in vertex. Pupils dilated.

Ophthalmoscopic examination.—Right eye: There was much swelling of the optic nerve. The edge was nowhere visible. Both arteries and veins distended, but very pale; the latter very tortuous; both lost in places in exudation. The centre of the disc, where the exudation was thickest, had a bluish tinge. There were one or two small hæmorrhages on the disc itself. Around the disc the retina appeared uneven and irregular. At some parts it was very transparent, and through it could be seen choroidal vessels and pigment; at other parts it was intranslucent, and the vessels were hidden. In the left lower quadrant, beneath the yellow spot, was a large, irregularly-shaped, sharply-defined hæmorrhage of deep red tint, occupying the whole field of the erect image in the almost fully dilated pupil. It did not appear to be connected with any vessel. Scattered over the rest of the retina were other smaller hæmorrhages. There were no white patches or glistening specks. Left eye in all respects the same as right, wanting only the very large hæmorrhage. Microscopical examination of the blood showed great variability in the size of the coloured corpuscles. There was a considerable number of small coloured corpuscles not more than one-quarter the size of the normal ones. Most of the small ones were spherical in shape, and of the same tint as the larger ones; a few of them presented tail-like processes. The remaining coloured corpuscles had their natural tint. There was no excess of colourless corpuscles. Urine 30 oz., acid, clear, sp. gr. 1015; no albumen; contained 7 per cent. of urea, or 6·72 grms. in twenty-four hours. Pulse small and soft; temperature 99° F.; respiration easy, not accelerated.

Sept. 11th.—Vomited last night and this morning.

16th.—Nose bled during night; handkerchief stained with pinkish blood.

18th.—Epistaxis; murmur very distinct, most distinct over pulmonary artery.

24th.—Murmur conducted well into axilla; strongly-marked pulsation of carotid arteries; loud bellows-sound over veins of neck.

29th.—Tint of skin changing; colour less yellow, more white; systolic murmur all over heart.

Oct. 1st.—Nausea and vomiting this morning; felt giddy. Could not sit up when his bed was made. Temperature, which yesterday was 98·8°, has risen to-day to 103°.

4th.—Bleeding from gums; blood very pink and watery; feels lively.

16th.—No sickness or headache; vision $\frac{1}{2}^{0}$, reads $1\frac{1}{2}$ Snellen with right eye; $\frac{1}{2}^{0}$ and $1\frac{1}{2}$ Snellen with left eye. Still marked optic neuritis, with hæmorrhages in both retinæ. The large patch in the right eye but little altered. Temperature 99°.

25th.—Sickness and headache.

Nov. 12th.—Distressing vomiting, bringing up a good deal of fluid.

14th.—Nose bled this morning—half a porringer full.

18th.—Very sick; headache.

21st.—Vomiting comes on if he takes much food; his appetite has been failing for the last fortnight.

27th.—Very sick; brings everything up; is very feeble.

28th.—Distressing vomiting; surface somewhat cold;

pulse scarcely to be counted. Says he knows he is dying, and asks to be taken home. Was removed by his parents, and taken a distance of about two miles in a cab. Did not complain of pain or fatigue on the journey; conversed with his parents and brothers and sisters. Died at 10 P.M.; intellect clear and tranquil to the last.

The patient was treated with iron, and later with iron and arsenic combined. He had a simple diet, and a small quantity of wine. His urine was examined almost daily; it averaged thirty-five ounces, was clear, acid, and free from albumen, and he passed from six to seven grammes of urea daily. The blood was examined several times; it always presented the characters described on admission.

Necropsy, at patient's home, forty-two hours after death.—Body a good deal wasted, but not emaciated. Skin much paler than natural, but not so much so as during life; it had a waxy appearance. Mucous membrane of mouth, nose, &c., very anæmic. On opening body well-marked panniculus adiposus was seen, the fat being of canary-yellow hue. Muscles of natural colour. Pericardium contained excess of clear straw-coloured fluid. Heart, not firmly contracted, larger than natural, apex formed by left ventricle. Both ventricles contained medium-sized clots of pale, reddish-brown colour, like meat jelly, and some fluid blood. Valves and orifices healthy; walls slightly thickened. Muscle of both ventricles of pale drab or fawn colour, with pale-yellow mottling (fatty degeneration). Lungs exceedingly pale; a little watery fluid could be squeezed out. Liver pale for the most part, but with patches of nutmeggy appearance. Spleen of natural size, firm and red. Kidneys: left very anæmic; right venously congested; adrenals normal. Stomach thin, but not excessively so; mucous membrane congested and ecchymosed. Small intestine very thin, mucous membrane pale. Large intestine had well marked appendices epiploicæ; presented no changes except thinness. Pancreas natural. Mesenteric lands small. Retroperitoneal lymphatic glands small and healthy-looking. Lymphatic glands of axilla natural. Thyroid gland rather large, but natural in appearance. Aorta of natural calibre, but very thin, pale, and inelastic: no changes in endarterium. Skull well shaped but thin. Brain exceedingly anæmic, otherwise normal. Periosteum removed from petrous bones: no discolouration or sign of disease. Orbits opened; contained abundant fat. Backs of eyes removed: hæmorrhage seen in retinæ. Pieces of clavicle and rib removed; marrow of a distinctly red colour.

Numeration of the blood-corpuscles in the fluid blood removed from the right ventricle was made some time after the necropsy by means of Dr. Gowers's hæmacytometer. The number of coloured corpuscles was 1,940,000 per cubic millimetre, or 38·9 per cent. of the natural number.

Remarks by Dr. MACKENZIE.—The case is a very characteristic example of idiopathic essential or progressive anæmia. The patient was, however, much below the age at which the disease is usually seen. No exciting cause could be discovered. No history of shock or fright was elicited. The diminution in the size of the coloured blood-corpuscles (microcythæmia) was well-marked, but no nucleated corpuscles were detected. Hæmorrhagic extravasations into the retina are usually noticed in pernicious anæmia, and were well marked in this case. According to Litten, they have no diagnostic value in distinguishing this form of anæmia from others, for he has found retinal hæmorrhages in anæmia from uterine cancer and hæmorrhage, menorrhagia, and hæmatemesis. I have examined a very large number of eyes of persons suffering from cancer, chlorosis, and anæmia from other causes, without finding hæmorrhages; but, not having examined from the anæmia standpoint, I am not prepared to dispute Herr Litten's assertion. A point of much interest in the case was the presence of well-marked double optic neuritis. I am not aware of optic neuritis having been described, though I dare say it has been observed, by other observers in connexion with pernicious anæmia. Many (*Centralblatt f. d. Med. Wissensch., 1875, s. 675*), in an account of a case, speaks of the papilla being deformed, and of the whole retina being cloudy; but it does not appear from his description of the ophthalmoscopic or microscopic appearances that there was neuritis. In my case the swelling of the disc was considerable, and the vessels were in places buried in exudation. The veins were very tortuous, as usual in neuritis, but of pale colour, with a broad light streak. The existence of optic neuritis caused hesitation in diagnosis in some who saw the case. Taken in conjunction with the pain in head, and discharge from ear with deafness, it certainly suggested coarse cerebral disease. But the headache was not so severe as is usual in intracranial tumour or abscess, and when first seen, although optic neuritis was present, there had been no purposeless vomiting. Moreover, the assumption of coarse intracranial disease did not explain the extreme anæmia. The occurrence of microcythæmia assisted me to the diagnosis of progressive pernicious anæmia, and the subsequent progress of the case, the vomiting, febrile attacks without assignable cause, the recurring epistaxis, and bleeding of the gums confirmed me in my opinion. Arsenic, which has been so useful in Dr. Byrom Bramwell's hands, was administered in the form of Fowler's solution, without any amelioration of the symptoms. The post-mortem appearances were those usually observed. Dr. Wilks, than whom probably no one has had greater experience in this disease, says that usually no coagula are present in the heart. In this case clots were present in both ventricles, but quite peculiar in character. The enlargement of the heart (undoubted, though the organ could not be weighed) remains unexplained. The examination was made by candle-light. The marrow of the rib and clavicle was observed to be red. I have not yet examined it microscopically. The case will be published in detail when a histological examination of the retina and all the organs have been completed.

I am indebted to Mr. S. H. Fisher and Dr. Newton for many of the notes of the case, and for assistance in making the post-mortem examination.

ROYAL INFIRMARY, EDINBURGH.

DEPRESSED FRACTURE OF FRONTAL BONE.

(Under the care of Professor SPENCE.)

FOR the notes of the following interesting case, we are indebted to Mr. T. F. Chavasse, M.B.

G. D——, aged eight, was admitted August 11th, 1877. Half an hour previously, while at play, he had fallen over the balustrade of a common staircase, and alighted upon his head on the pavement below.

On admission, a large irregular wound, with ragged edges, and the size of a five-shilling piece, was discovered half an inch above the right superciliary ridge. A portion of the frontal bone, nearly as large as the wound of the soft parts, was driven inwards upon the dura mater.

The child breathed quietly, and was unconscious, but could be roused. Chloroform having been administered, Prof. Spence enlarged the wound of the skin somewhat, in an upward direction, carefully separated the periosteum from the depressed osseous portion, and then inserted an elevator between the dura mater and the bone, and raised those parts of the inner and outer tables of the skull which had been forced inwards, and took them away in three pieces. The pulsations of the brain became distinctly visible. The periosteum was folded over the dura mater, and the edges of the wound, as far as possible, were brought together with silver sutures.

Mr. Spence was of opinion that there was a fissure extending towards the base of the skull, involving the orbital plate of the affected side.

The child remained unconscious all the night following the operation, but next morning he could be easily roused. The head was shaved, and ice continuously applied to it.

Aug. 13th.—There was considerable œdema of the upper eyelid of the right side, and the superficial and deep vessels of the eyeball were much injected.

A fortnight later a large abscess formed in the cornea of this eye, followed by sloughing of the cornea and also of a portion of the sclerotic. Eventually, however, a good stump of an eye remained.

The head injury progressed without a bad symptom. The portion of the dura mater that had been exposed gradually became covered with granulations, cicatrised, and contracted considerably. On Sept. 29th the child was convalescent.

PRESENTATION.—A very handsome inkstand, with the following inscription, was given to Mr. Moger, at Christmas, by the patients of the Highgate Dispensary, on his resignation of the duties of a surgeon to that institution:—"Presented by the members of the Highgate Dispensary to R. G. Moger, Esq., F.R.C.S., in grateful recognition of his skilful and benevolent services to that institution during forty years. Dec. 1877."

Reviews and Notices of Books.

Gunshot Injuries: their History, Characteristic Features, Complications, and General Treatment; with Statistics concerning them as they are met in Warfare. By Surgeon-General T. LONGMORE, C.B., F.R.C.S., Hon. Surgeon to Her Majesty; Professor of Military Surgery in the Army Medical School, &c. Illustrated by 58 Woodcuts. London: Longmans, Green, and Co. 1877.

AT a time when a great war like that between Russia and Turkey is being waged, the publication of Prof. Longmore's treatise is especially appropriate. He is not one of those who believe that war is likely to be blotted out of the history of the human race, "When power, in full reliance on its strength, puts forth pretexts for aggression; when there are believed wrongs to be avenged, or rights to be defended; when arguments addressed to reason and prudence, instead of producing a conciliatory feeling, only serve to provoke additional irritation in the multitude; when the counsels of friends and the decisions of arbitrators are rejected by the disputants, force, in the shape of war, is still made, as it ever has been, the court of final appeal."

The book is most comprehensive and complete in its character, so much so as to render any very exhaustive review impracticable, on account of the length to which it must needs extend. Of the work it may be said that to every military surgeon it will be a matter of necessity to master the contents, while in it those who practise civil surgery will find much that is interesting to them, and of practical utility as well.

The treatise comprises eleven divisions, and includes the history of the successive changes which have taken place in the characters of gunshot injuries, since they were first presented in warfare down to the present time, the agencies by which these injuries are produced, the qualities of the projectiles used, the characteristic features of gunshot injuries, the various symptoms and injuries produced by them both immediate and remote, and the general and local treatment. One section is devoted to the administrative arrangements for the care of the wounded, and another to classification and statistics. Individual injuries incidental to special regions are reserved by Prof. Longmore for some future publication.

The first section comprises a full and interesting description of the various modes of production of gunshot injuries—from those caused by the old Bombards throwing stones, to modern weapons like the great Italian guns, casting a projectile 2000 lb. in weight, with a striking energy of 31,000 foot-tons, in the form of a segmented or Shrapnel shell. Portable firearms are also passed in review, from the "snaphammer" and firelock of Queen Elizabeth's time down to the Martini-Henry of our own, or the Winchester repeater, whose deadly power of destruction has been over and over again described by the correspondents at the present seat of war. The bullet fired from a smooth-bore musket was often able to do little more than glance from the armour which the soldiers wore for many years after firearms were first introduced, while the Martini-Henry rifle can send a ball at twenty-five yards through fourteen half-inch elm planks placed an inch apart, or through a wrought-iron plate a third of an inch thick. Its initial velocity is 1443 feet in a second, and at a distance of 1000 yards, which it travels in three seconds, it preserves a velocity of 600 feet per second. With this formidable weapon our troops are now armed.

It is easy to understand from this the greater severity of modern gunshot injuries, and the larger proportion of recoveries that took place when Brown Bess was carried by our soldiers, as in the time of Guthrie and Hennen during the Peninsular and American wars. The change from smooth-bore to rifled weapons has given ten times the range, and greatly increased the precision of aim; while in the breech-loaders the troops can maintain an almost continuous fire, thus increasing enormously the relative number of wounded in a given time, and proportionately augmenting the difficulties of affording surgical relief.

The causes which influence the nature of gunshot injury, the size, shape, material, and velocity of the projectile, the part of the body or tissue implicated, are discussed in details of much interest in Section 2. The influence of the rotatory motion of the ball, and the heat developed on the sudden arrest of its motion, are also treated of. On the latter point the author considers that the wound is not noticeably influenced by heat developed in this way, thus reaffirming the conclusions of Thomas Gale, whose treatise on "Wounds made with Gonneshot" was published in 1563, and who wrote "Gunpowder is not venemous, neither the shotte of such hotenesse as is able to warm the flesh, much less to make an ascar." Professors Busch, Socin, and Dr. Hagenbach, have attempted to show that a rifle-bullet partly melts on striking a bone, and support this view by Kuster's and Hagenbach's experiments, which produced the partial melting of bullets on striking an iron target at short range. But the cases are not parallel, and the author's view is probably the more correct one.

The notion that a gunshot wound is of a poisoned character has been maintained up to a very recent period. Though Ambrose Paré refuted the error in 1545, it was revived in France during the war of 1870-71, and Velpeau took occasion to seriously contest this opinion in the French Academy of Medicine after the Revolution of 1848.

Section 3 deals with the distinguishing features of gunshot injuries. The appearances and characters of these wounds are discussed with consummate ability. In this section much will be found to interest the civil practitioner who may be concerned in any medico-legal inquiry, and those who may be called to treat cases of accidental injury produced by small-shot.

The primary symptoms and complications are discussed in Section 4. The various circumstances modifying pain are curious and interesting, but too numerous to cite. The chapters on shock and hæmorrhage are very important; that on the lodgment of foreign bodies is full of extraordinary instances which emphasise the necessity, on which the author elsewhere insists, of early methodical and thorough examination of gunshot injuries.

Section 5 will also prove of special interest to the civilian, from the valuable aid given in the diagnosis of particular features and complications.

Section 6 is devoted to the secondary complications, inflammation, gangrene, hæmorrhage, pyæmia, tetanus, and the various ultimate consequences, as regards the functions of the different parts of the body when injured.

The section on treatment is most complete, and abounds with valuable information to those who undertake the duties of a military surgeon. The first help to the wounded on the field itself, and the nature of the help required, occupy Chapter 1. Then the general treatment required in the field hospital is discussed. The various applications in use, the instruments required, and the general treatment both of primary and secondary complications are included in this and the next section.

Section 9 is mainly of hospital organisation in time of war, while Sections 10 and 11 refer to classification and statistics.

It is difficult within any reasonable limit to do justice to the mass of valuable and carefully arranged information which is presented in these chapters. Brief reference can only be made to a few points. The idea, for instance, is disposed of that field tourniquets should be distributed largely to combatants in an army on active service. Now

professional persons urge this to be done wholesale to the soldiers on the occasion of every war; the fact being that but a small proportion of gunshot wounds are attended by fatal hæmorrhage, and in those that are the unskilled use of the tourniquet would probably seriously aggravate the existing mischief.

Professor Longmore, referring to Lister's "Method of Antiseptic Treatment applicable to Wounded Soldiers," considers it quite inapplicable after a battle, and that even were the means at hand to put it into execution, no army surgeon would have the time necessary for putting it into practice, without neglecting other cases equally urgent. The simplest applications, and those that require the least time in application, are practically all that surgeons can use in time of war, and such applications, conjoined with hygienic precautions otherwise, will generally prove most conducive to the comfort and best interests of the patients. On the other hand, Volkmann, in one of his most recently-published Klinische Vorträge, strongly urges the use of Lister's dressings in the field, as being calculated not only to save much suffering and many lives, but even in the long-run the surgeon's time. The author advocates the free use of sedatives when pain exists, and mentions the beneficial results in lessening constitutional disturbance and relieving pain which attended the hypodermic use of morphia, largely resorted to by the English volunteer surgeons during the Franco-German war. With few exceptions every surgeon sent out to the war in the East has been provided with a dressing case containing, not merely a scalpel and forceps, but a hypodermic syringe, and some solution of morphia.

The use of another sedative Prof. Longmore also advises to be freely resorted to—namely, tobacco. For many it is not merely a luxury, but a necessity, and no present, as the writer well knows, was appreciated in the hospitals so much as a handful of cigars provided for each man by the National Aid Society. The author regards pyæmia chiefly from the prophylactic point of view. He writes, "I have seen patients with gunshot-wounds in whom a tendency to pyæmia has existed, or in whom what have been regarded as early pyæmic symptoms have actually shown themselves, recover under careful and judicious treatment; but I cannot recall to mind an instance of recovery of a patient in whom pyæmia has been fully developed beyond all doubt."

Under the head of Administrative Arrangements, the author refers with satisfaction to the new corps of bearers for the wounded now established in our army for the first time. "It is scarcely possible," he says, "to speak too highly of the advantages which will accrue to the wounded should this system be efficiently carried into execution."

As much ignorance exists as to the terms and scope of the Geneva Convention, the following reference to National Aid Societies will prove interesting:—

"In each of the leading countries of Europe, Great Britain excepted, there exists in official relation with the War Ministry a National Society for aiding the sick and wounded soldiers of the country in time of war. They as much form part of the military medical system for meeting the hospital exigencies of war as the Volunteer combatant forces in England do with regard to the fighting arrangements for resisting invasion. Their official relations with the military authorities give the members of these societies a title to the privileges conferred by the Geneva Convention. There is nominally a similar society in England, but it has never yet had any official connexion with the War Department, and is not bound by any exterior authority, while its organisation has been chiefly adapted for carrying help, from benevolent motives, to contending armies abroad. Its *personnel* would not, under any circumstances, be entitled to claim the privileges of the Geneva Convention, as it is not included in the official military establishments, to which alone the Convention refers."

This may prove startling intelligence to some of our young surgeons who have volunteered for service in the present war; but it is nevertheless true that, unless officially incorporated with one of the contending armies, the Geneva Convention does not protect them.

Much more that is of extreme interest and importance might be quoted from Professor Longmore's work, but for this we must refer our readers to the book itself. In every chapter the reader will find much to interest him. For the English military surgeon the book is of course indispensable, as in it he will find all that is best and newest belonging to his branch of the profession, well written and admirably arranged. It will be only necessary to say, in conclusion, and as the highest praise we can bestow, that this treatise is worthy of the author's reputation in this country and abroad as one of the very foremost authorities upon military surgery.

The Medical Digest. By RICHARD NEALE, M.D. Lond. The New Sydenham Society. 1877.

THE Council of the New Sydenham Society has certainly acted wisely in publishing the work before us. It is an index of reference to certain periodicals for certain years, classified and furnished with an additional index to facilitate its use. It must, as the Council in the preface states, be taken for what it professes to be and to do; not for what it does not. As it stands, it is a work of much value, and will be, without question, most useful. It is a monument of industry, and a striking example of what may be accomplished in the spare hours of a busy life. Any disappointment which may be felt by those who use it will be partly due to its own excellence, partly to its somewhat misleading title. It is a section of what has long been a desideratum—a general index to medical literature, and as a section its great value cannot but suggest how inestimably valuable a complete work of the kind would be.

The work contains, as we stated, tables of reference to the matter of many of the most important practical contributions to medical science which have been published in certain journals—the *British and Foreign Medico-Chirurgical Review*, from 1848 to 1876; THE LANCET, from 1837 to 1876; the *Medical Times and Gazette*, from 1850 to 1876; Ranking's Abstract, from 1845 to 1873; and Braithwaite's Retrospect, from 1874 to 1876. Of the character of the work and the gigantic labour which it represents, it is sufficient to say that it contains 90,000 distinct entries, and the index alone 9000 references. It represents more than thirty years' continuous labour, and was, we are informed, undertaken solely for the author's individual benefit, without any thought of future publication. Compiled by a practitioner for his own use, it is calculated especially for the use of the practitioner. Hence references to many articles which are not of practical interest are omitted. As an instance of its use, suppose information is desired on the subject of whooping-cough. The word "pertussis" in the index refers to the number of a section, in which we find a series of classified references to the pathology of the disease, its statistics, infective period, various symptoms, &c., followed by more than a hundred references to articles in its treatment, arranged according to the method recommended. Of course, the value of the book to the practitioner will depend on his having access to the journals to which reference is made. The name is, as we have said, misleading. It is called "The Medical Digest, a means of ready reference to the principal contributions to medical science during the last thirty years." This it is not. It is a means of reference to many of the practical contributions in English medical literature. As such alone it is a work of a very remarkable character and of the highest value. It is, indeed, almost unique. Only one work of the kind has, as far as we know, been projected: it was an index to all the articles in the journals and books contained in a well stocked American medical library. We believe the extent

of the work frightened the publishers, and only one number was issued; but if the work exists, as it probably does, in manuscript, its publication is well worth the consideration of the Council of the New Sydenham Society, who perform a far greater service to English medical science by the publication of such works than by the translation from the French of works, which, however valuable in themselves, probably two-thirds of the members of the Society can read in the original language.

Analytical Records.

SANITAS.

(THE SANITAS COMPANY, 57, MOORGATE-STREET.)

THIS fluid disinfectant and antiseptic is prepared by the action of hot air on turpentine in the presence of water. It consists essentially of peroxide of hydrogen and camphoric acid. Mr. Kingzett, to whose interesting researches the new agent is due, has shown that many of the volatile oils, during their absorption of oxygen, yield as products the two compounds named above. He considers the alleged hygienic value of the pine and eucalyptus is due to the formation by natural oxidation, and to the slow evolution, of these two compounds, and has made experiments which prove that they possess great antiseptic value.

The fluid is innocuous, agreeable in odour, and mixes freely with water. With potassium iodide, starch, and ferrous sulphate it gives a strong reaction of peroxide of hydrogen. It is sold in several forms, one of them a toilet preparation, agreeably perfumed, and well adapted for use in the sick-room, and as a wash for the mouth and skin none of them are offensive.

We cannot venture from the facts before us to assert that "Sanitas" is, under all circumstances, a safe disinfectant; but we by no means assert the reverse, and consider that it deserves a careful and extensive trial. It possesses important advantages, and is certainly the most interesting and promising of the many recent candidates for the position of first favourite among disinfectants. We must, however, record a protest against the name, which appears to us exceedingly ill-chosen.

VASELINE.

(CHESEBOROUGH MANUFACTURING COMPANY.)

We have before noticed this preparation of petroleum in terms of warm praise. It is of the consistency of butter, is perfectly free from odour, and does not become rancid. We have now before us several new preparations made from it, which are so useful as to call for remark. They are a pomade, a cold cream, and a camphor ice, all of excellent quality. We have tried all of them, with most satisfactory results, having found them greatly superior to the preparations in common use.

A coarser article is sold as "Veterinary Vaseline," and is likely, we think, to be quite as valuable in its way as the others.

THE "A 1" COD-LIVER OIL.

(SOUTHALL BROS. AND BARCLAY, BIRMINGHAM.)

We can only say of this oil that it appears to us to be as good as possible. It is wonderful how little of disagreeable taste it possesses.

PROBYN'S DIALYSED IRON SYRUP.

(PROBYN AND CO., PALL-MALL EAST.)

This syrup contains the oxychloride of iron yielded by dialysis which is precipitated both by acids and alkalies. Like other preparations of the kind which we have noticed before, it is free from inky taste and well prepared. It is an excellent form of iron medicine.

NIGRINE: A JET-BLACK MARKING FLUID.

(W. MATHER, FARRINGDON-ROAD, LONDON.)

We can commend this as a very good and convenient marking-ink. We have submitted linen marked with it to some of the most powerful of chemical agents, including acids, alkalies and chlorine, and cyanide of potassium, and have found that it was very much easier to destroy the linen than the marking upon it; in fact, the writing could not be effaced by any of the agents we employed.

UMNEY'S FLUID EXTRACT OF CINCHONA.

(WRIGHT, LAYMAN, AND UMNEY, 50, SOUTHWARK-ST.)

We have examined this preparation with some care, and find it quite satisfactory. It is so accurately described by its title that there is really nothing more to say about it. One fluid ounce is equal to one ounce of good bark. It is far safer to use such a preparation than to trust to bark, which is subject to so much variation in quality.

New Inventions.

NEW ILLUMINATING LAMP.

MESSRS. SALT & SON, of Birmingham, have brought under our notice a new illuminating lamp for medical purposes, which possesses many advantages to recommend it to the profession. The lamp, which is neat in appearance and extremely portable, is made of copper plated with nickel silver, and is fairly represented by the annexed engraving, drawn to a scale of one-third its size. The wick employed is fed by a sponge saturated with petroleum, and burns for several hours with a high illuminating power, while, by a suitable arrangement of a reflecting mirror and biconvex lens, the rays are concentrated, and the light may be directed on any required point. The flame, being enclosed in a lantern, is not affected by currents of air, and no shade is needed. Messrs. Salt's lamp is one which seems likely to prove very useful and handy in medical and surgical practice.

A NEW SUTURE NEEDLE.

M. G. DENIS, 79, Marché aux Herbes, Brussels, has sent us an ingenious and useful suture needle just made for Professor De Roubaix. It consists of a sharp-pointed hollow needle, containing a crotchet needle, which may be made to slide in and out by means of a little button. The instrument is used in the following manner:—The hollow needle is made to penetrate the tissues, and the little crotchet is then protruded; the suture silk or silver is hooked on to the head of the crotchet-needle, and the whole is then easily and readily withdrawn. The needle may be made of various sizes and curvatures. Straight ones may be obtained of the maker post free for twenty francs each.

BEQUESTS, &C., TO MEDICAL CHARITIES.—The Hon. Mrs. Mary Howard, of Ashstead Park, Surrey, bequeathed £1000 to the Royal Hospital for Incurables at Putney, £500 to the West Norfolk and Lynn Hospital, £100 to the Surrey County Hospital, and £0 each to the Charing-cross Hospital and the Earlswood Asylum for Idiots. The Birmingham and Midland Eye Hospital has received £200 under the will of Miss Mary Lee. Lord Overstone has given a second £100 to the Chelsea Hospital for Women.

THE LANCET.

LONDON: SATURDAY, JANUARY 5, 1878.

EACH year the task of forecasting the medico-political future becomes increasingly difficult. Either opinions find premature expression, or they are less forcible than in older days—which, it must be confessed, we look back upon somewhat regretfully—when to take up a question of reform was to engage in an enterprise which could not be honourably abandoned until success or crushing defeat determined the irrevocable issue. It is now too much the fashion to play with projects of change which never ripen into reforms, and if they did would chiefly astonish their promoters. Making the most ample allowance for the facility with which questions can be shelved, at an epoch when expediency commonly overrides principle, it is still difficult to understand the ease with which topics of pressing interest, and even urgency, are dropped on the first appearance of opposition that would only have stimulated the reformers of fifty years ago to redoubled exertions. All these considerations, and one other we scarcely like to name—the fickleness of active, rather than persevering men—must be taken into account in attempting to scan the prospect which opens up before us at the commencement of another year.

It will be safer to hope than to prognosticate with regard to many of the more prominent subjects of interest, public and professional. The uppermost thought just now is a profound longing that, for the credit of humanity, the miserable and inexcusable slaughter now occurring in the East may be arrested. We have more than the common interest of citizens in this aspiration. Members of our profession are courageously risking their lives in the attempt to mitigate the suffering and death this horrible war is causing. At home, trade is seriously hampered and, as some fear, languishing. The want and misery financial pressure occasions are forced upon the notice of medical practitioners at every turn. Pinching poverty is beginning to assume a grave aspect in more than one district, and scarcity not only inflicts suffering at the moment, but too commonly brings disease in its train. The curse of excess in the use of drink that intoxicates, when taken in too large quantities, is still rife in our midst. During the year which has closed we made a special effort to put a stop to one prolific cause of this evil—the Grocer's Licence,—a permit under cover of which wines and spirits for secret drinking are systematically procured by women and even children. We still hope this licence may be abolished by the Legislature; and, although our endeavours are not unlikely to be obstructed by the extraordinary proceedings of a Scotch organisation—which, in striving to rid the "land of whisky" of a greater evil, is prepared to put on the yoke that galls us so grievously,—we shall not allow the subject to rest until what we believe to be a most serious peril to the health and morality of the people is removed. Lunacy law reform; reconstruction of the coroner's court; adjustment of the law and practice relating to pathology for legal purposes and the status of medical witnesses before lay tribunals; the working of the Health Acts, including those for the prevention of disease — notably vaccination, and revaccination, which should be made compulsory; the provision of an adequate and pure supply of water for drinking purposes; the diversion of sewage from rivers and river-mouths, together with a speedy abandonment of the wanton practice of throwing away in the sea what is wanted for the land; laundry reform, so far as the removal of needless perils to health is concerned,—are among the subjects which have engaged, and must still claim, our attention. The questions involved are many of them of urgent and general moment. There are also matters in respect to which the prompt interference of the Legislature must be asked—for example, to pass an Act which shall supplement the law prohibiting adulteration, by one which may be effectual to prevent *depreciation!* This is needed to preserve the quality of milk and other articles of food from the nefarious skill of ingenious tradesmen, and the uncertainties of the applied law.

Among matters more immediately affecting medical men, professionally, are the following. The development of reform in the public services, the Army, the Navy, and, we hope soon to be able to add, "the Poor-law Medical Department." In some of these directions progress is believed to be making, but it is impossible not to feel that the time has come when fruit may be expected, in fact as well as on paper. Then there is the vexed and, as we cannot help thinking, somewhat contemptible movement, to transfer women from their true sphere, and violate the laws of decency, by making them medical practitioners. It is a little strange, and, we suspect, throws light upon the prurient nature of this craze, that women have never, so far as we are aware, proposed to become druggists. That would surely be a more suitable enterprise, incomparably more consonant with the obligations of modesty, which, above all things, women should prize. The long-promised "Conjoint Scheme," though taking shape, still waits to be realised. Let us hope the year 1878 may leave it a fact accomplished! The College of Surgeons may be asked to move earnestly in this matter. It is deserving of more ardent attention than can be claimed for the enterprise of debasing the profession by taking under its protection a legion of half-educated specialists who *may* be midwives or tooth-drawers, but are not surgeons, as to be connected with a College of Surgeons would seem to imply. We earnestly wish the medical corporations, including the London University with its perennial women question, well out of their difficulties and back from their wanderings. The work of real life waits while whims are engrossing energy the profession and the country can ill spare. 1878 should be a busy year; may it be one memorable for its earnestness, its prudence, and its success!

WE have very carefully considered the voluminous correspondence elicited by our questions on the subject of Poor-law Medical Reform. It was not of course, for obvious reasons, intended that the letters with which we have been favoured should be published. Personal inconvenience, and even, in some instances, injury or prejudice, might have resulted from such a course, while scarcely any point of value would have been gained. No such objection, how-

ever, can be entertained with regard to the signature of the memorial. That document will be placed in the hands of the Right Hon. the President of the Local Government Board, for his personal information; and it will be not only necessary, but desirable, that he should be in a position to judge how far our propositions are supported by the opinions of those we profess to represent. The necessity of withholding the communications made to us has to some extent enhanced the difficulty and sensibly increased the responsibility of our task. It need scarcely be stated that we have striven to express faithfully the views of the majority, on the subject we have been induced to take in hand. It does not appear that there has ever yet been a well-considered and collective expression of opinion upon this subject—one of paramount interest to a large and most important class of our professional brethren.

To those who do not find their views adequately set forth in the memorial we now submit for signature, it will be necessary to explain that there is no such agreement upon many points of the highest moment as the public and the profession have a *prima facie* right to expect. This is to be regretted, but it does not affect the fact that upon the fundamental *principles* of reform—which include what is essential—all are agreed. We have therefore thought it best to limit the suggestions that will be submitted to the President to those upon which there is, in effect, no substantial difference of view with respect to the measures of reform required by the necessities of the case—economic as well as prudential.

The first demand which we have found to be universal is, that the Poor-law Medical Service shall be placed upon the same footing, as regards independent organisation, with the newly-constituted Army Medical Department, involving a full recognition of the claim and qualification of medical officers to exercise direct and unfettered control over their patients in the matter of nursing and the supply of necessaries, not less than in respect to the administration of drugs. This is a cardinal point which concerns the economic interest of the ratepayers as much as the convenience and professional success of medical practitioners engaged in the relief of the sick poor. We base the appeal on the commercial and practical ground of cost—the largest result for the smallest outlay. We claim that medical men are fully as much interested in this consideration—of cheapness and efficiency—as the rest of the great body of ratepayers. This view of the case has, we think, been unaccountably overlooked.

It is the common object of all to cure rapidly, and at the lowest public cost. The two interests—that of the medical officers as servants engaged in the discharge of a public duty, and that of the guardians as trustees of public funds—are, in point of fact, identical. Meanwhile it will be conceded that if the aims are the same, medical men directly engaged in the work of cure ought to be left, as far as possible, unfettered in their choice of remedies, and the adaptation of means to the end in view. There is no room for difference of opinion on this point, and it follows that what has been tardily conceded to the medical officers of the army must be granted to those concerned with the recovery of the poor from the poverty caused by sickness and its attendant incapacity for self-support. The first objection that will probably be urged in opposition to this claim by those who are unwilling to concede it is, that the medical officers of the Army Medical Department are wholly public officers, whereas those engaged in the Poor-law Service are in part private practitioners. This does not in any way concern or affect the question involved. So far as these officers have to do with the poor they also are wholly public officers, and their service is a public duty publicly discharged. It is for this reorganisation we must first contend. When the main point has been surrendered it will be time to press for the development of those fruits which are, in truth, the certain outcome of that preliminary reform to which we ask our friends to address their chief attention.

The extension of the dispensary system to the provinces in the manner suggested in the memorial; the readjustment of districts on a basis of time and work required, rather than one of numerical classification or the arbitrary division of parishes; the provision of cottage hospitals apart from the workhouses; the reorganisation of *medical* relief on a footing wholly distinct from that given, under certain restrictions, to the able-bodied and the infirm; the adoption of a system of nursing by paid attendants; together with other matters not less important, are points of high moment; but they will follow, if they do not actually grow out of, the constitution of a separate Service as we propose. What we have to urge in support of these and kindred reforms will be said to greater advantage at a later stage of the controversy. Our immediate object is to ask the co-operation of *all* who are interested in this movement, in order that the representation we are about to make may be as effective as the situation allows. We have reason to hope that if the response to our appeal should not be as complete as might be desired, it will involve a careful consideration of the claims of those we represent; and we can assure our brethren that their contentions, set out as moderately as we have stated them, will command the support of the profession, with what weight that circumstance may be held to bring to the argument that the time has arrived when the remonstrances of the Poor-law medical officers, so far as they rest on public grounds, must be considered, and their grievances, which are in fact also the grievances of the poor and the ratepayers, must be redressed.

THE effects of thermic influences on nerves is a subject which has received less attention from experimental physiologists than its importance deserves. The mechanism of the perception of changes of temperature is still imperfectly understood, and upon this the study of the effects of these changes on nerve-fibres is likely to throw some light. The stimulating effects of the sudden application of a hot body to a nerve are, it is true, well known, but it is probable that the effect is to be ascribed as much to coarse chemical and mechanical changes as to any direct stimulating effect of the temperature. It is by observing the result of a gradual change of temperature, obtained without any sudden alteration in the molecular condition of the nerve, that information on thermic stimulation is to be obtained. A series of important observations, made according to this method, have lately been published by Prof. GRUETZNER. The conclusions attained confirm the opinion which is suggested by the phenomena of sensation, that a marked difference exists between the sensory and motor nerves—that is, between centripetal and centrifugal fibres—

in their sensitiveness to a change of temperature, gradually induced. If an uninjured nerve, as the sciatic or the vagus, is placed in a suitable apparatus and raised in temperature by a current of warm water to 50° or 60° C., no contractions which can be ascribed to its direct stimulation are observed in the muscles supplied by the nerve. On the other hand, there is the clearest evidence of a very marked stimulation of the sensory fibres, manifested by a considerable increase in the general blood-pressure and by a reflex effect on the heart and respiration, as soon as the water reaches the temperature of 45° or 48° C. The nerve gradually becomes insensitive and loses all functional power without any muscular contractions being produced. If the nerves are divided, the effects of thermic stimulation of the two ends can be compared. When the temperature of the central end is raised to 42°–50° C., there is evidence of intense stimulation; a long-continued rise in the blood-pressure occurs, and, if the anæsthesia is incomplete, the animal becomes very uneasy, and sometimes gives distinct indications of pain. The same application to the peripheral extremity is without effect. Thus it would seem that the stimulation of nerves by warmth travels especially towards the centre and not towards the periphery; or, what is a more probable explanation, the stimulation passes in each direction, but is of a character to excite the central ganglion cells and not the muscular fibres. Several centripetal and centrifugal nerves were examined in this manner, and with a similar result. If, for example, the peripheral end of a divided vagus is raised to a temperature of 50° C., not the slightest effect on the heart's action can be observed. If, however, the stimulation is transferred to the central end, an immediate result is produced. In the rabbit there is an immediate effect on the respiration, which is arrested, commonly in expiration, more rarely in inspiration, and there is a reflex retardation in the heart's action through the instrumentality of the other vagus. The effect on the blood-pressure is the same as is produced by electrical stimulation: there is usually a rise; rarely, in dogs, a fall.

Observations were also made on the effect of the thermic stimulation of the vaso-motor nerves. With one exception, they appeared remarkably insensitive to the excitant. No effect on the vessels of the ear or on the pupil of the rabbit was obtained by the stimulation of the sympathetic in the neck, nor was any reddening of the tongue caused by a similar application to the hypoglossal of the dog, although electrical stimulation of the same nerves was followed immediately by all the well-known effects. The exception to this insensitiveness was in the case of the sciatic nerve of the dog. A temperature of 45° to 48° C. applied to the nerve caused at once a dilatation of the vessels of the leg, and an elevation of the temperature of the foot of 1° or 2°. The latter was not due to the direct effect of the warmth on the limb, for if the temperature of the water employed was lowered there was no corresponding fall in the temperature of the foot, and the thermal stimulation of the central end of the divided sciatic caused a corresponding rise in the temperature of the other foot in which the sciatic was intact, while it caused no elevation of the temperature of the foot on the same side. Distinct as was this action in the foot, no corresponding effect could be obtained in the vessels of other organs. Warming the lingual nerve caused no increased flow through the salivary glands, and no congestion of the tongue, and a similar failure attended every attempt to excite by this means the nerves of other secreting organs.

Although the effects of heat on the afferent nerves was so marked, no corresponding result could be obtained by applications of cold sufficient to reduce the temperature to 4° or 8° C., and to annul altogether the functional power of the nerves. Every attempt to stimulate by this thermal method the surface centres of the brain was also without result.

BEFORE the profession have come to any common agreement upon the much-vexed question, whether it were better to have a general registration of sickness of all kinds, or a registration of certain sorts of sickness only—as, for example, infectious sickness,—Parliament has almost unobservedly intervened, and dealt with the subject after a fashion of its own. Hitherto the question has been considered as a national one, demanding imperial legislation, when the lines on which legislation should proceed could be determined. Parliament, pending the settlement of the general question, has not hesitated to treat the subject as one of local government and fitted for local legislation. Hence it has not refused, at the request of certain local authorities, to confer upon them powers for requiring within their districts, in order to facilitate the execution of the general sanitary law as to infectious diseases, a registration of infectious sickness. This piecemeal method of treating the matter has its advantages with reference to a question in which we have no experience to guide us; and it may be expected that the several instances in which the powers above referred to have been conferred will furnish that practical knowledge which is probably alone needed to make general legislation on the subject feasible.

Three municipalities have had granted to them the power of requiring a registration of infectious sickness within their boundaries, two in England—Huddersfield and Bolton; and one in Scotland—Greenock. This power is not to be exercised in the same fashion in each instance, hence the interest and instructiveness of the experiment is increased from the fact of each municipality endeavouring to attain the same end in a different way. Huddersfield takes its power under a Waterworks and Improvement Act passed in 1876 (39 & 40 Vict., cap. c.) Section 67 of this Act provides that every registered medical practitioner in attendance upon a case of infectious sickness shall, as soon as he is aware of the nature of the sickness, give a certificate, in a specified form, to the person in charge of the case, or of the house in which the case may be. The certificate states that the disease falls within the terms of Section 67, but does not designate its particular nature, the medical officer of health being apparently required to complete the registration. For each certificate so given the medical practitioner is to receive a fee from the corporation of two shillings and sixpence. The person to whom the certificate is given is required to deliver the same forthwith at the sanitary office or police-station of the borough, to the official he may find there. Bolton takes its power under an Improvement Act passed last session (40 & 41 Vict., cap. clxxxvii.) Section 87 of this Act provides that both the person in charge of a case of infectious sickness, or of the house in which the case lies, and the medical attendant on the case, shall each, independently of the other, give information to the Corporation of the case

immediately they become aware of its nature. The medical practitioner is required to give his information by means of a certificate in specified form, which he must transmit to the corporation, and for which he will receive from the Corporation a fee of two shillings and sixpence. The certificate in this case requires the nature of the disease to be stated. Greenock takes its powers under a local Police Act passed last session. Section 202 of this Act provides that the Board of Police of the town may, on its being certified by its medical officer that epidemic, contagious, or infectious disease exists within the limits of the town, issue an order requiring every householder within it, or within any particular district thereof, to report within twenty-four hours from the time when the existence of such disease in his house has been ascertained, at the office of the sanitary inspector, any case of contagious or infectious disease which may occur in such house. Here it will be observed that a medical certificate of the disease is not required.

In each of the above instances failure to carry out the provisions of the sections referred to involves a penalty.

It would be idle now to criticise the probable merits or demerits of the different methods adopted in the several local Acts noted for obtaining a registration of infectious sickness. The Acts are in operation, and we shall presently learn from experience how far the objects of the promoters in respect to infectious sickness have been successfully attained through them. With regard to the Bolton Act, as will be seen elsewhere in the present number of THE LANCET, a difficulty of administration has already occurred—not, apparently, from any inherent defect of the provisions of the Act, but from a penny-wise and pound-foolish after-thought of the Corporation.

There can be little doubt that, until general legislation on the subject is projected, other municipalities will be tempted to follow the example of Huddersfield, Bolton, and Greenock, and seek possession of powers in local Acts for obtaining a more precise knowledge of the occurrence of infectious sickness within their districts, the better to prevent its extension. Edinburgh has already signified its intention to apply to Parliament for permission to incorporate in a new Police Bill which it is promoting a section rendering it compulsory upon medical men practising in the burgh to report, under penalty, to the medical officer of health, every case of typhus, typhoid, diphtheria, small-pox, scarlatina, and measles occurring in his practice, within twenty-four hours after it has come under his observation.

Annotations.

"Ne quid nimis."

THE CONSTITUTION OF THE COUNCIL OF THE ROYAL COLLEGE OF SURGEONS.

ON June 16th last year we called attention to the non-observance of the provisions of an important section of one of the charters of the Royal College of Surgeons of England, relating to the constitution of the Council. As that warning seems to have been disregarded, we feel it necessary to speak a little more to the point. As the Council of the College of Surgeons has pledged itself to the Conjoint Scheme, and has already appointed representatives to the Committee of Reference, it is desirable in the interests of the Scheme that there should be no misunderstanding of the conditions upon which the co-operation of the various medical authorities is based.

The Charter, 15th Vict., sect. 7, states: "If any member of the Council shall at any time after his election cease to be in the *bonâ fide* practice of his profession of a surgeon, or shall practise as an apothecary, he shall thereupon cease to be such member of the Council, and shall forfeit all his rights and privileges as such member thereof; and it shall be lawful for the Council of the said College to declare the place of such member in the Council to be vacant." These conditions are as binding now as ever, but they have been systematically ignored by the Council, and at the present time there are at least four members of the Council, or one-sixth of the whole number, who are not engaged in the *bonâ-fide* practice of their profession of surgeons. And this is the Council which has accepted the Conjoint Scheme, and appointed representatives to the Committee of Reference. It may be a moot point whether the acts of a Council which contains four members who presumably are disqualified from a seat therein, would be accounted valid in any Court of Law. If they would not—and it is for the Council to show that they would—it would seem to follow that the arrangements which the Council of the College of Surgeons of England has made with the other medical authorities co-operating for the Conjoint Scheme, may at any time be called in question, and perhaps overturned.

A REFORM ASSOCIATION FOR THE UNIVERSITY OF LONDON.

A PARAGRAPH has appeared in some of the daily papers to the effect that those graduates of the University of London who are desirous of a reform of that institution have unanimously agreed to organise an association, to be called the London University Reform Association. It is quite true that a certain section of the graduates—we believe, formed of very advanced reformers—have resolved to attempt such an organisation, being excited thereto perhaps by the great power which organisation proved the medical section of the University to possess. The organisation of the latter is defended, if defence is needed, in a former number of THE LANCET, and especially because it was started with the simple view of inducing medical graduates to take a larger interest in the affairs of a university which they had made everywhere famous, as far as medical science is concerned. It so happened that, soon after efforts were made to evoke this interest, the Senate of the University, without consulting the medical graduates, and with hot haste, resolved to admit women to medical degrees, and it is no wonder that the organisation which had just been started should have at once become matured. But the medical graduates have never been aggressive as regards other Faculties or the Senate, and the moderation with which they raised the question of the privileges of Convocation at the extraordinary meeting of that body in July last made that meeting more memorable than any which had previously taken place. We feel bound to make these remarks, and to explain that the medical graduates have not initiated the "Reform Association." In doing so, we are far from desirous of saying a word against the latter, or its intentions, of which, indeed, we know little but what rumour has brought us, unless the objects of the association be the adoption of those changes in the University which were given in the requisition for an extraordinary meeting (published by us)—a requisition which Dr. Storrar, the chairman of Convocation, in his discretion declined to entertain,—as we think, seeing the critical condition of the University, wisely. It is possible that this Reform Association may be of service if its views be well matured and its steps conducted with caution; it may at

least save the time of Convocation, and prevent those useless discussions on ill-judged subjects, which have, we are sorry to write the word, disgusted so many of its members. The starting of such organisations as that terming itself the Reform Association of the University indicates, however, that the subversive policy of the Senate will not fail to have numerous imitators. The more time advances the more we see reason to condemn the step which the Senate took in February last.

HELMINTHOLOGICAL WORK IN 1877.

HELMINTHOLOGY continues to advance, throwing unexpected light on the pathology and etiology of many obscure affections. A striking instance of this is seen in Dr. Normand's discovery of the cause of the Cochin-China diarrhœa. The parasites concerned are two nematode worms (Anguillula stercoralis and A. intestinalis). An account of their structure and peculiarities forms the substance of several contributions by Prof. Bavay, M. Laveran, and the discoverer himself (*Comptes Rendus*, Feb. 1877, p. 266; *Archives de Méd. Navale*, Jan. 1877, p. 35; *Gaz. Hebdom. de Méd.*, Jan. and Feb. 1877). It will afford some idea of the prolific character of these minute worms when we note the fact that in bad cases an examination of the fæces showed that hundreds of thousands of the little worms were evacuated every twenty-four hours. According to M. Bavay, only five days are necessary for the full growth and maturation of Anguillula stercoralis. Of yet higher interest, perhaps, are the discoveries of Lewis and Bancroft, recorded in our own pages. Apart from the intrinsic merit of the "finds," they throw light upon previous records and observations. By a singular coincidence, Lewis and Cobbold almost simultaneously described the adult representative of the Filarias anguinis hominis in our columns; but Dr. Cobbold had anticipated Dr. Lewis by announcing Bancroft's discovery in a letter addressed to ourselves. Dr. Cobbold named the parasite Filaria Bancrofti. It was not unnatural that Dr. Lewis should refuse to adopt the new nomenclature; yet it is both curious and instructive to notice that, whilst our distinguished correspondent, writing from Calcutta, takes Dr. Cobbold somewhat to task for associating Bancroft's name with the adult entozoon, another eminent pathologist, writing in the *Gazeta Medica da Bahia*, is also rather severe on Dr. Cobbold for not associating Wücherer's name with it. We here allude to a paper by Dr. Da Silva Lima (who lately contributed specimens of Anchylostoma duodenale to the Hunterian Museum). Dr. Lima's Portuguese memoir has been reproduced in the last number of the *Archives de Médecine Navale*, and contains an important appendix by M. Le Roy de Méricourt, in which he defends "le savant helmintholo-giste anglais" from the Bahia physician's reflections. The memoir reproduces the illustration Dr. Cobbold gave of Filaria Bancrofti, and is entitled "Nouvelle Phase de la Question à la Nature Parasitaire de la Chylurie: Dévouverte du Représentant Adulte de la Filaire de Wücherer." It is evident that we have not yet heard the last of this parasite, either in its relation to disease or scientific controversy.

As regards parasites in animals, a great variety of species have turned up. We can only allude to one or two of them. The most remarkable is the new equine fluke found by Dr. Sonsino, of Zagazig, in some of the horses that perished of the Egyptian plague (Gastrodiscus Sonsinoii, Cobbold). This singular worm has the entire ventral surface converted into a large oval sucker, and within its concavity there are about 200 small supplementary suckers. Its appearance is altogether unique (the *Veterinarian*, April, 1877). The September number of our contemporary also contains an account by Dr. Cobbold of a new form of psorosperm found within the mitral valve of a horse. Prof. Edward Perroncito has contributed some interesting researches illustrative of the tenacity of life possessed by beef and pork measles (*Osserv. Gazetta delle Cliniche di Torino*, vol i., 1877). Dr. Ragni and several students submitted themselves to experimentation, and one of the "courageous young men" succeeded in infecting himself with Tænia mediocanellata. The only other novelty in connexion with comparative pathology that we can afford to notice is Dr. Osler's discovery that a form of bronchitis, affecting dogs, is due to the presence of worms (Strongylus canis bronchialis, Osler). It is of especial interest in relation to the etiology of similar epizootics affecting cattle, sheep, and other animals, both wild and domesticated.

"HOSPITAL NURSES."

EVERY now and again the subject of "trained" nurses for hospitals is discussed in the public journals as embodying a novel proposal. We have already much experience of the service which it is possible to obtain from women thus qualified. On the whole, the result has been satisfactory. Where it has not altogether answered this description the fault has been traceable to excess rather than defect of the preparatory discipline to which the "nurse" has been subjected. It is manifestly undesirable to attempt the creation of a class of nurse-doctors. Women, with a smattering of medicine or surgery picked up in the wards of a hospital, are not likely to scatter blessings broadcast among the population without contingent risks of no small magnitude. The point to realise is that it would be a positive evil to let loose on society a sisterhood impressed, and in a position to impress others, with the notion that they are possessed of knowledge and skill upon which it would be safe—or not unsafe—to rely for the cure of ordinary maladies. "Wise" women are not to be encouraged. The way to avoid disappointment and misadventure is to make it clear that "trained nurses" are women who have been trained to act as the bedside attendants of patients under medical treatment; in a word, *nurses*, and nothing more. Woman's mission, beyond question, extends to the function of administering to the sick, and such work befits the feminine character. Women are unfit, and nurses are *not* trained, for medical and surgical duties.

THE REGISTRATION OF INFECTIOUS DISEASES IN BOLTON.

WE greatly regret to learn that scarcely has the clause (87) of the Bolton Improvement Act, 1877, relating to the registration of diseases, come into operation than a difficulty has been experienced in its administration. To the ordinary reader the clause requires that every householder shall give information to the Sanitary Authority of, and every medical man give a certificate for, every case of infectious disease coming under observation, the one in his house, the other in his practice. The medical man receives a small fee from the Sanitary Authority for his certificate. The Authority, however—the Corporation—has now issued a circular letter to the medical men of the district, informing them that they have "misunderstood" the requirements of the Act. This letter explains that the Corporation needs only information of the *first* case in a house, and will itself, through its own officers, acquire information as to furthur cases in the same household. But it does not seem that a corresponding circular has been sent to householders, and it is to be inferred that the latter are to be held bound by the meaning of the Act in this matter as it appears to ordinary readers. We express no opinion upon the legal view of the question, but as it was quite practicable to express the view now taken by the Corporation in the Act itself, we are compelled to regard it as an afterthought. If this be so, the penny-wise and pound-foolish policy, now attempted to be introduced by the Corporation must be detrimental to the proper ex-

ecution of the provisions of the Act as to infectious diseases. The Corporation expresses a desire to act in harmony with the medical profession, and says it hopes "for their cordial co-operation in carrying out satisfactorily, and without unnecessary cost, a provision *designed to aid the profession in arresting the spread of disease, and promoting the health of the inhabitants of the borough.*" This is a misrepresentation of the Act, which can hardly be too much condemned. There is not a word in the Act which justifies such a statement of its design. The provisions of the Act as to infectious diseases were passed to enable the Corporation to carry out important duties which are imposed upon it by the Public Health Law. If this is the sort of course that sanitary authorities are going to pursue who get these exceptional powers as to infectious diseases, these powers will very soon become mere nonsense. It will be for the profession in Bolton to say whether they will take legal issue upon the course adopted by the Corporation. Of course it would be easier for them to adopt generally the view now taken by the Corporation, and to facilitate the working of the Act. But where a legal duty is imposed under penalty it is first of all necessary that the terms in which the duty is expressed should be precise. To accept in this matter a position which may prove to be not legal would be to compromise the further development of legislation in the direction of the clause in question. It was clearly the duty of the Corporation to have ascertained the legal position in which it stood before issuing the circular, and if the view of the circular had proved erroneous, either to have let the clauses rest until they were amended, or to have appealed to the profession, frankly acknowledging inadvertence. The Corporation not having done this, the profession in Bolton will be well advised to settle the legal question before taking, as the Corporation now asks, a sentimental view of it.

ENGLISH MORTALITY IN 1877.

THE publication of the Registrar-General's return for the last week of 1877 not only enables us to ascertain the rate of mortality in twenty of the largest English towns during the last quarter of the year, but affords the means for estimating the death-rate in the whole of England and Wales during the same period, as well as in the entire year just ended.

In the twenty large towns, the annual rate of mortality during the three months ending December averaged 22·8 per 1000, against 25·2 and 22·4 in the corresponding periods of 1875 and 1876. The rates in the several towns last quarter ranged from 16·9 and 18·1 in Portsmouth and Leicester, to 26·6 and 27·4 in Wolverhampton and Manchester. The recent improvement in the health of Liverpool has left Manchester in the unenviable position of the unhealthiest of our large towns, judged by its mortality statistics. Assuming that the death-rate in England and Wales last quarter bore the same proportion to the rate in the twenty largest towns as usually prevails during the last three months of the year, it may be calculated that it was equal to about 20·4 per 1000, or 1·5 below the average rate in the ten preceding corresponding quarters. The mildness of the temperature during November and December was doubtless the main cause of the unusually low rate of mortality during the quarter, as it was in the corresponding period of last year, which was almost equally mild.

Pending the publication, a month hence, of the Registrar-General's Quarterly Return relating to the past quarter, there is good ground for believing that the rate of mortality during 1877 was lower than that which had prevailed in England and Wales in any year since civil registration was established in 1837. Adding the estimated numbers in the last quarter of the year to the known numbers in the three preceding quarters, the death-rate per 1000 for the entire year may be calculated at 20·4, corresponding with the rate in its last three months. During the thirty-eight years, 1838-75, the annual death-rate in England and Wales averaged 22·0 per 1000, and ranged from 20·5 in 1856 to 25·1 in 1849, when cholera was severely epidemic. It appears certain, therefore, that the rate of mortality in 1877 was very considerably below the average, and it was probably somewhat below any annual death-rate on record. Excepting a slight excess in the second or spring quarter, the rate of mortality in 1877 was continuously and greatly below the average. This was mainly due to the mild temperature in the first and last months of the year, and to the moderate temperature which prevailed during the summer, causing an unusually small mortality from diarrhœa. The marked decline, however, in the mortality from other zymotic diseases, especially in that from fever, appears to warrant the attribution of a certain portion of this decline of mortality to real sanitary progress, which is at present most marked in urban sanitary districts, as much sham sanitation still exists in rural sanitary districts, for which the guardians of the poor were constituted the sanitary authorities by the Public Health Act of 1872.

TOYS FOR SICK CHILDREN.

THERE is, we are glad to see, a project on foot to supply the little patients in Children's Hospitals with toys. The many sick children in ordinary institutions should not be forgotten in the distribution of these bounties. There is, however, a point of more grave moment to which it is well we should draw attention. The toys supplied ought to be perfectly innocuous; they should be neither poisoned with paint nor so constructed as to soil the fingers or face of a delicate child when played with in bed. This is a caution of sufficient importance to give in the face of an appeal to public generosity. Although a very large proportion of the toys sold, for the use of children whose parents are on the alert, may be harmless, many of those in *common* use are not free from the suspicion of evil. Then, again, there is the possibility of spreading disease. Toys are probably a not unimportant source, or means, of infection; they very readily take up matters that adhere to the skin, and are apt to become impregnated with the breath of the child who plays with them. Looking to all the possibilities of the case, it would, we think, be wise to restrict the supply for hospital use to articles which can be readily and effectually cleansed by simply washing in water. It is hopeless to expect nurses to exercise more than the most superficial caution, and it would therefore be prudent to put it out of their power to do much mischief by neglect. We doubt even the wisdom or safety of supplying wooden or rag dolls. It would be better policy to send only india-rubber or tin articles; and these should be japanned instead of painted, or coated with some colouring matter which will not scale off, or become moistened and softened, with the heat. This will seem at first a little consideration, but in practice it may be of great moment.

FRAUD UNDER THE SANITARY LAW.

AN important case was tried at the recent Middlesex Sessions, in which a charge was preferred by the Fulham District Board of Works against a furniture dealer named West, for conspiracy, in conjunction with their sanitary inspector, named Keall, to obtain, by fraud, money from the Board. Keall had absconded, and a reward is offered for his arrest. It would appear, from the statement of the prosecution, that it was Keall's duty, as sanitary inspector, in cases of small-pox, to take down the names of persons suffering from the malady, visit the premises where they lay, and see that all tainted clothing and bedding were re-

moved and burned. In the case of poor persons the Board replaced the articles destroyed, and Keall was in the habit of ordering bedding and other articles for the purpose of replacement from West, a furniture-dealer in Hammersmith. West sent in his bills to the Board, and, on these being vouched for by Keall, they were paid. Some doubt having arisen as to the accuracy of some of these bills, inquiry was made, and it was discovered not only that articles charged had not been supplied to the persons to whom they were alleged to have been delivered, but that infected articles, removed for destruction, had been otherwise disposed of, "dummy" bedding having been substituted for them at the apparent burnings. The Board had, in this way, been defrauded of nearly £120. The evidence tendered in support of this charge satisfied the jury, and a verdict of "Guilty" was returned. Mr. Serjeant Cox, who tried the case, sentenced the prisoner to eight months' imprisonment with hard labour.

POPULATION AND HEALTH OF NOTTINGHAM.

THE increasing tendency of the English population to aggregate in large towns, and the consequent rapid growth of suburban districts around most large towns, make it exceedingly difficult in many cases to define what may be called the natural boundaries of such towns. The arbitrary boundaries fixed long ago by charter or Act of Parliament often very inadequately represent the town proper. Nottingham was a case in point, and by the Nottingham Borough Extension Act of last session, which has just come into operation, the boundaries of that municipal borough were extended from 2000 to 9960 acres, or 15½ square miles; and whereas the Registrar-General estimated the population of the old borough of Nottingham at but 95,025 persons in the middle of last year, the population residing within the extended boundaries of the borough in the middle of 1876 was locally estimated at 157,310. The new boundaries of the borough naturally include a considerable area which is still almost rural in character, and the estimated population within the new boundaries does not exceed 15·8 per acre; whereas the average density of the twenty-three largest towns of the United Kingdom, including London, is 38·4 persons per acre. The density per acre of population in the new borough of Nottingham is less than that within any of the defined boundaries of these twenty-three towns, except Norwich, Leeds, and Sheffield.

From a sanitary point of view there is an undoubted advantage in extending the boundaries of large towns so as to include, and thus to place under the control of one urban sanitary authority, the surrounding suburban districts; and Nottingham will in this way gain much in efficiency of sanitary organisation through the operation of its recent Borough Extension Act. The provisions of this Act dissolve the five local board districts of Basford, Radford, Bulwell, Lenton, and Sneinton, each of which was previous to this Act a distinct urban sanitary district with its own medical officer of health. The Town Council of Nottingham are now the sole urban sanitary authority for the area which is enclosed by the extended boundaries of the borough, and Dr. G. Seaton, who has for some years been medical officer of health for the borough of Nottingham, will no doubt find his hands materially strengthened by the increase of his district so as to include most of the populous suburbs of the borough. The annual salaries paid to the medical officers of health of the five local board districts now dissolved ranged from £30 to £50, and amounted in the aggregate to £200, while the salary of the medical officer of health to the old municipal borough of Nottingham appears to have been fixed at £400. From every point of view the extension of the borough of Nottingham promises increased efficiency in its sanitary organisation, which, it may be hoped, will exercise a favourable effect upon its mortality statistics. These have not been altogether satisfactory in recent years. During the twelve years 1865–76, the annual rate of mortality in Nottingham averaged 24·5 per 1000, and was slightly below the average rate during the same period in twenty of the largest English towns. Dividing this period of twelve years into two periods of six years, we find, however, that whereas in the twenty towns the death-rate in the six years 1871–76 was 5·8 per cent. lower than in the preceding six years, in the borough of Nottingham the rate of mortality, which was equal to 24·0 in the six years 1865–70, rose to 25·1 in the later period of six years; in other words, the mortality in the borough of Nottingham in the more recent period, instead of showing a decline, exceeded that which prevailed in the earlier period by 4·4 per cent. This requires investigation. The explanation may be that the Registrar-General underestimates the present population of the borough. The striking fact that during the twelve years under notice no less than 19·5 per cent. of the children born in the borough of Nottingham died under the age of one year, does not, however, admit of a similar explanation. So high a rate of infant mortality affords the strongest evidence of unsatisfactory condition, if that term be accepted in its fullest signification.

THE HYGIENIC VALUE OF PLANTS IN ROOMS AND THE OPEN AIR.

IN the December number of the *Contemporary Review*, Professor Pettenkofer treats the somewhat popular prejudice in favour of plants as the distributors of oxygen in a very sensible but disappointing fashion, not at all to the taste, probably, of certain theorists, but to the advantage of science and common sense. He argues, from data collected by himself and others, that there is no superabundance of oxygen in the neighbourhood of growing vegetation, and that, as a matter of fact, so far as the supply of this particular gas is concerned, the country, with its boasted superiority, is not much better off than the town! Professor Pettenkofer does not seem to have tested the atmospheres from which his conclusions were drawn for ozone; the omission would not of course affect the question of increased oxygen in rooms containing growing plants, and no one we presume supposed that the proximity of a few trees would sensibly increase the quantity of ozone in an atmosphere. Nevertheless, it would be well if the Professor could supplement his recent paper—a not unimportant contribution to the literature of the controversy about open spaces—with a statement of the results obtained by testing for the purity of atmospheres, as well as the deficiency or preponderance of one particular gas.

THE SANITARY STATE OF LEEDS.

THE last annual report of the medical officer of health for the borough of Leeds, Dr. George Goldie, and which refers to the year 1876, is full of suggestive matter. The year had been one of bad trade, scarce work, and prevalent wet, yet the health of the borough, as measured by its mortality, had been exceptionally good throughout the twelve months. The death-rate per 1000 of the population had been from all causes 25·0, as compared with an average for the preceding ten years of 28; from zymotic diseases 4·9, as compared with 6·2; from the seven principal zymotic diseases 4·3, as compared with 5·6. Dr. Goldie has no hesitation in attributing the improved health of the borough during the year to the exertions of the sanitary department. But he bemoans the obstacles in the way of that department dealing efficiently with infectious disorders—first, from the want of information which could be supplied by medical practitioners of the existence of infectious sickness; and, next, from the want of sufficient powers for the isolation of cases of such sickness where isolation is necessary. He

illustrates these points from the experience of the year as to small-pox and scarlet fever. His observations on infant mortality raise a new question. He is not inclined to attribute much influence upon the rate of infant mortality in Leeds to the employment of women in the manufacturing and other industries of the borough, but he assigns the "present regular and increased infant death-rate to a free and injurious use of that most abominable of all licences, the 'Grocer's Beer and Spirit Licence.' The hours," he adds, "that the mothers work out are not so early, lengthy, or late as to interfere with healthy lactation from the breast or nutrition of their offspring, if when the parents on their immediate return home industriously attended to the immediate wants of their infants, instead of (as I have over and over again observed them) rushing off with their first earnings to the nearest shop for licensed drink." The great sanitary scandal of Leeds for many years has been its privy system, and we gather from Dr. Goldie's report that no sufficient measures have as yet been taken to abate it. It would appear that the Corporation, failing other measures, is building large furnaces for the destruction by fire of its middenstead contents, but that an experimental trial of a pail system for the abatement of privy nuisance has failed, and that now a trough water-closet system is being tried. Dr. Goldie congratulates himself that 210 closets of this sort had been erected in the borough to the end of 1876. This is being thankful for very small mercies in a place which counts its middensteads by thousands. Manchester is transforming its midden-privies into pail-closets, of a sort that Leeds finds unmanageable, at the rate of 5000 a year Leeds is still dealing with this grave question perfunctorily. Dr. Goldie is quite right in urging the trough water-closet where it is required, but it surely cannot be made general throughout the borough. What of the houses where another sort of closet must be made use of if the privy nuisance is to be abated?

IRON IN EPILEPSY.

IN the October issue of the *Practitioner*, Dr. Gowers adduces strong evidence in favour of the use of iron in many cases of epilepsy, a disease from which the drug has been, perhaps, too rigidly proscribed. In a large number of cases he has found that iron has no recognisable influence upon the affection, one way or another; but there remain others in which it may be employed with temporary and even permanent benefit. In those cases in which its action is transient, there is, at first, a marked diminution in the number and severity of the fits, but if the administration of the metal be pushed, effects which may be regarded as injurious ensue, the fits reappearing with all their former severity. However, there are some cases in which its action is direct and permanent—in fact, curative. Such cases—those in which iron does most good—are chiefly those which stand on the borderland between epilepsy and hysteria; but even in some purely epileptic cases iron has been found to have produced permanent results. Dr. Gowers points out that anæmia is no indication for the use of iron in these cases, and suggests that it may have a direct influence upon the nervous system, like zinc, silver, and other metals, quite apart from its hæmatinic properties. He supports his opinion by brief notes of a few cases from his out-patient practice at the National Hospital for Paralysis and Epilepsy, guarding himself against drawing too rash conclusions by bearing in mind the sources of fallacy that may arise in testing any therapeutical remedy in epilepsy, such as the natural variation in frequency of the fits, and the influence of the bromide, under which all epileptics are mostly placed. The frequency with which fits increase on withdrawal of the bromide does not allow of any conclusions being drawn as to the efficacy of iron when it is substituted for the latter drug. Iron should, then, be given in cases where no other treatment has been tried, or if the bromide be taken it should be added to this, and the effect noted. Thus, in one case where the bromide had not done much good, the addition of iron caused a cessation of the fits, which, however, recurred after a time. In another case, that of a girl seventeen years of age, who had suffered from several fits daily from the age of three years, the bromide alone caused a diminution in the frequency and severity of the fits. At the end of three months belladonna was added to the bromide, and the fits ceased, and then she took quinine and iron for six months without having any recurrence. A third case, that of a woman forty-eight years of age, the subject of attacks of *petit mal*, occurring at the catamenial periods, was temporarily cured by the administration of the perchloride of iron. At the end of eighteen months, a recurrence of the attacks was met successfully by the bromide, and an interval of twelve months of freedom gained; a second recurrence took place, and a return to the iron treatment again proved effectual. One other case may be mentioned from this paper; it was that of a man twenty-three years of age, who for five months had been subject to severe epileptic attacks, mostly nocturnal. He was treated with ten minims of tincture of perchloride of iron three times daily, and continued to take it for six months, and during this time had only two attacks, one in the first and one in the third month of the treatment. After the iron had been left off he remained free from attacks for four months, when the fits recurred, and in three months were "as bad as ever." A return to the perchloride at once produced a freedom from attacks during the time he continued to take it. Two instances of attacks with co-ordinated spasm—lessened or arrested by the use of iron—are also given.

BRIGHTON.

AT a meeting of the Sanitary Committee of the Hove Commissioners it was resolved, on the suggestion of Dr. Kebbell, the medical officer of health, "to take steps to obtain a new census for the district, so that more correct estimates might be made of the birth- and death-rates of the town." Extracts from the Registrar-General's last Annual Report relating to censuses taken in Barrow-in-Furness and in Newton-moor were quoted to prove that the expense of enumerating the mere numbers of the inhabitants of a town was comparatively small. In 1871 the population of Hove was 11,221, and it was now variously estimated at from 13,000 to 20,000. Dr. Kebbell said that, "The medical officer of health for Brighton had made the population of Hove under 13,000, *thus making the death-rate higher than that of Brighton*." So that the above resolution appears to have had its origin in the practice—unfortunately not unfrequent—of endeavouring to draw a comparison between the sanitary or insanitary state of watering-places by merely exhibiting their respective death-rates.

VISITORS TO HOSPITALS.

THE managers of the Metropolitan Asylums have drawn up a code of rules for regulating the visitation of patients at their fever and small-pox hospitals, and have forwarded copies of the same to most of the Boards of Guardians in London. The circular points out the risk run by visitors unless they have been revaccinated, and advises them not to enter any ward of the hospital if in a weak state of health or in an exhausted condition; to partake of food before entering the hospital; to avoid touching the patient or exposing themselves to the breath or the emanations from the skin, and to sit at some little distance from the bed and not to handle the bedclothes. Visitors would be required to wear a wrapper provided at the hospital, to wash their hands and faces with carbolic soap and water before leaving,

and are strongly urged not to enter any public vehicle on leaving the hospital. Visits of a quarter of an hour's duration will be permitted to the nearest relative only; in very urgent cases two visitors will be allowed. Notice of dangerous illness will be sent to the nearest relatives and intimate friends, and the gate-porter will be furnished with a list of patients dangerously ill, in order to answer inquiries.

THE AMOUNT OF SALIVA SECRETED DURING MASTICATION.

M. TUCZEK, in the last part of the *Zeitschrift f. Biologie*, relates his experiments on the amount of saliva secreted during the mastication of different kinds of food. The plan adopted was to take an ordinary mouthful of the substance, the quantity of water in which was known beforehand. It was masticated till judged fit to be swallowed, then ejected, weighed, and dried. From the dry residue the quantity introduced into the mouth was calculated, and on subtracting this from the total weight of the ejected morsel, the amount of saliva added to it was obtained. The quantity of saliva secreted he finds is, as might be expected, greatest in dry food, as the crust of bread, where it amounts to somewhat more than the weight of the substance itself. He proceeds on the data so obtained to estimate the absolute amount of saliva secreted per diem, and gives the following table:—Adult fed on black bread exclusively, 545 grammes; white bread, 698; non-nitrogenous food (starch, fat, sugar), 500; food with a larger proportion of bread and potatoes, 659; mixed food, 476; albuminous food, 773 grammes. On comparing these numbers with the total weight of the salivary gland (about 66 grammes), it appears that 100 grammes of salivary gland secrete in an hour about 1300 grammes of saliva, which, in comparison with other glands of the body, shows that the salivary glands possess great activity.

PERILS OF THE FOOTWAY.

THE streets are just now sufficiently slippery from atmospheric and weather causes, but to add to the difficulty of avoiding accidents they are recklessly strewn with orange-peel. Attention is drawn to the matter, in consequence of some untoward misadventures in the shape of ugly falls and sprained or broken limbs, the result of the careless habit of throwing refuse about the footways. It is only very indirectly an advantage to call attention to evils which need for their remedy the individual reformation of bad habits. There are, however, *some* people who read with the idea of profiting for their own sakes and the advantage of those around them; and to such the hint that great personal suffering is often inflicted on harmless folk by this particular act of thoughtlessness, may be productive of good results. It is, of course, quite useless to appeal to the authorities who are legally responsible for keeping the streets in order; to these, the guardians of public safety, it matters nothing that perils abound.

THE ARTIFICIAL FORMATION OF ERYTHROPSIN, OR VISION-RED.

EWALD and KUEHNE, in a communication to the *Centralblatt*, state that they have observed in the retinæ of frogs, removed with such care that not a fragment of black pigment remained adherent to them, complete bleaching on exposure to the direct light of the sun; but that, if such retinæ were placed in the dark, recovery of the tint occurred, the tint becoming, in the absence of light, first yellowish, then chamois tint, and finally rosy. This change may be wrought several times in the same preparation in the course of three days, especially in retinæ allowed to macerate for twenty-four hours in a saturated solution of common salt, then washed in the dark with a dilute solution of the same salt, and bleached in sunlight. Solutions of erythropsin in purified bile, free from ether, show a similar power of recovering their colour, lost from exposure, by rest in darkness.

POOR-LAW WORK v. SANITARY WORK.

THE Nantwich Board of Guardians, acting as a Poor-law Authority, has, by circular, called upon its medical officers to report *all* cases of infectious diseases coming under their care in their respective districts to the medical officer of health or inspector of nuisances. Of course the guardians have acted illegally in doing this, but the surprising fact is how any board of guardians could, in this the fifth year of the Local Government Board's administration, be so astonishingly ignorant of their functions. Of course, also, this board was mightily indignant because several of the medical officers, while not objecting to report their pauper cases, objected to report private cases until their responsibility in so doing was covered by statute law. The guardians, in this difficulty, directed their clerk to lay their grievance, and the obnoxious behaviour of the medical officers, before the Local Government Board. Would it not have been better to have written to that Board in the first place if they had found any difficulty in understanding the orders and circulars of the Board as to their Poor-law and sanitary duties?

"MODERN LIFE AND INSANITY."

Macmillan's Magazine for December contained an interesting paper by Dr. Hack Tuke on "The Relations of Modern Life and Insanity" as cause and effect. The author takes a very sensible view of this important subject, and summarises the salient facts with considerable ability. He lays great stress on the prevalence of preventable causes, and while recognising the degree in which heredity and other indirect causes operate to produce the spread of mental disease, he very properly insists upon the necessity of giving heed to the value and importance of *education* in its broadest sense as a means of developing the organism, physical and mental, so that it may be too strong to degenerate. It will be remembered that we have more than once enforced the importance of this aspect of the case in THE LANCET. We are glad to see it taken up with power and knowledge in a lay magazine.

THE CONJOINT SCHEME.

THE Conjoint Scheme for England of May last has advanced another stage. All the representatives of the co-operating authorities have been appointed to act as the Committee of Reference. The appointments are as follows:—The Royal College of Physicians, Dr. Risdon Bennett and Dr. Pitman; Royal College of Surgeons, Sir James Paget and Mr. John Simon; University of Oxford, Dr. Acland and Dr. Rolleston; University of Cambridge, Dr. Paget and Dr. Humphry; University of Durham, Dr. Philipson and Mr. G. Y. Heath; University of London, Dr. Richard Quain and Dr. Carpenter; Society of Apothecaries, Mr. Edward Bradford and Mr. George Corfe. A meeting of the Committee will take place at the Royal College of Surgeons on Friday next.

"SCARLATINA BY LETTER."

UNDER this heading the newspapers narrate a case in which scarlatina was undoubtedly communicated by letter, from an infected house to a previously healthy family. The children "had the envelope to play with," and took the disease. We have, in THE LANCET, repeatedly called attention to this risk. It is satisfactory to know that a not uncommon, but too long overlooked, method of infection is at length beginning to be recognised. The danger which attends the practice of writing letters, and sending papers,

books, and parcels, from sick rooms to disseminate the "germs of disease" is of no small magnitude. Probably paper, in its familiar forms, is as effective a carrier of morbific material as linen or wool. The notion of "disinfecting" books and letters is practically untenable. Such means of infection should be themselves destroyed. Circulating libraries are too often the circulating media of communicable disease.

SANITARY WORK IN GLASGOW.

FEW of the principal towns of Great Britain present a more interesting field for study, in respect to their sanitary administration, than Glasgow. All who are interested in ascertaining the nature of the detailed sanitary work required in great centres of population will find much instructive information for their purpose in a report recently issued by the Health Committee of the Magistrates and Council of Glasgow. The report has been prepared by Mr. K. M. Macleod, the sanitary inspector of the city, and it gives an account of the operations of the Sanitary Department for the four years ending 30th April, 1877. An interesting series of monthly reports is now also being issued by the Sanitary Committee on the air of Glasgow, with tables of wind, temperature, and rainfall. These reports are being prepared by Mr. E. M. Dixon, B.Sc., in connexion with the medical officer of health, Dr. J. B. Russell, and they furnish data as to the chemical constitution of the air at different monthly periods, which promise valuable results. Dr. Russell recently delivered, as President of the Sanitary and Social Economy Section, before the Philosophical Society of Glasgow, an address on the comparative position of town and country in reference to the prevalence of certain kinds of fatal disease, as tested by the returns of the Registrar-General for Scotland. The address was highly suggestive and instructive, and its early publication in detail, with the illustrative tables, is to be desired.

THE CHLORIDES IN THE URINE.

DR. ZUELZER, at the close of an elaborate series of observations on the urine in dogs and man, sums up his results in the two following propositions:—That the chlorine in the urine is combined not only with sodium but with potassium; and (2) that in conditions of excitement of the system the quantity of common salt is diminished, whilst that of potassium chloride is augmented; whilst in conditions of depression the reverse obtains.

CHANGE IN GERMAN ORTHOGRAPHY.

IN the last number of the *Centralblatt f. d. Med. Wissensch.*, a considerable modification and simplification of the spelling of many of the words has been adopted, which ought not to pass unnoticed. It consists essentially in dropping the aspirate when this is not sounded. Thus "athem" (respiration) is spelt "atem," "rothe" (red) "rote," "theilung" (fission) "teilung," "thatsachlich" (causation) "tatsachlich," and so on.

AT the Devon Quarter Sessions on Tuesday, a resolution was carried, on the motion of Earl Fortescue, to the effect that a memorial be presented to the Government calling their attention to the danger to man and beast occasioned by the recent spread of hydrophobia, and praying that measures may be introduced into Parliament for affording further protection from the peril. The chief-constable of Devonshire had reported (said the noble Earl) that since June two persons had died of hydrophobia in the county, twenty-five persons had been bitten by rabid dogs, 140 dogs had been destroyed, forty-four of them having been undoubtedly mad, and a large number of cattle and sheep, bitten by these dogs, had been killed.

REDRUTH, in conjunction with Illogan, Gwennap, and Stythians, has organised a Sanitary Association, after the excellent examples of Manchester and Tottenham, for promoting a better knowledge of sanitary requirements among the populations of the several places, and so aiding the action of the sanitary authorities. The first report of the Association briefly shows the purposes of the organisation, gives a summary statement of the mortality of the districts within its area of operation, and reprints extracts from Mr. Rammel's report for the General Board of Health on the sanitary state of Redruth in 1852, and Dr. Blaxall's report to the Local Government Board on the health of Redruth and certain conterminous districts in 1877. The inhabitants have thus placed clearly before them the justification for the Association, and the nature of the work it can usefully enter upon. We wish the Association every success, and that it may be the forerunner of many other such associations in the South-Western counties.

UNDER the auspices of the Manchester and Salford Sanitary Association, a lecture on the subject of "Clothing in Relation to Health" was lately delivered in Manchester by Dr. J. Haddon. The Bishop of Salford, who presided on the occasion, commended the excellent work performed by the Association, and urged its claims for better public support. Dr. Haddon pointed out what he considered to be the evils resulting from some of the customs and fashions of the age, specially alluding to the manner in which children are dressed. With regard to adults the lecturer recommended that the whole body should be covered with flannel, varying in thickness according to the season and state of the atmosphere. There can be no doubt whatever that the Manchester and Salford Association, by arranging for the delivery of lectures of this class, render a real service to the public, and to the cause of sanitary progress.

A QUESTION of very great moment to every Board of Guardians in the country has been raised by the Bradford Union Board—namely, the maintenance of pauper lunatics. The Bradford Guardians think the time has come when some Government allowance should be made towards the support of pauper lunatics kept in workhouses. As is well known, an Imperial subsidy is made in the case of paupers confined in the various county asylums, but those in workhouses have to be maintained entirely by the ratepayers. After communicating with other guardians and eliciting their opinions, the Bradford Board will memorialise the Local Government Board on the subject.

OF the several schemes which have been submitted for providing Liverpool with an improved water-supply, the one which seems most likely to be adopted by the town authorities is that of bringing up the water from the River Vyrnwy, in Wales. The Vyrnwy is a tributary of the Severn, and is about forty-five miles in a direct line from Liverpool. The borough engineer has recommended the Water Committee to proceed with the necessary surveys and to apply for powers to Parliament.

ANOTHER serious football accident is reported as having occurred at Sheffield within the last few days. A player was rushing at the ball, when he fell, and received from another player several severe kicks on the face. The sufferer was rendered insensible, and had to be removed to the hospital, where he lies in a precarious condition.

THE medical officer of the city of York, Dr. S. W. North, has prepared for and presented to the committee an excellent report on the ventilation of sewers. Sound in principle and most suggestive in practical application, this report may be studied with advantage by all interested in the subject.

WE have great pleasure in recording the erection of a memorial to the late Richard Baker Bellyse, of Audlem, Nantwich, Cheshire (who died early in 1877), in the form of an ornamental lamp in the centre of the Market-place. The memorial consists of a granite pillar, four feet square and seven feet high, with panels bearing appropriate inscriptions. Dr. Bellyse practised in the town for forty years. He was preceded by his father and grandfather. They have thus practised continuously for the respectable period of ninety-nine years, illustrating the fact that good medical practices are often hereditary, the growth of generations. The profession is honoured by such lives, and a town does well to keep them in remembrance.

THE Lettsomian Lectures for the present year will be delivered at the rooms of the Medical Society of London, Chandos-street, Cavendish-square, by Mr. Francis Mason, the subject being the Surgery of the Face. The dates of the delivery of the three lectures are announced as Jan. 7th and 21st and Feb. 4th respectively.

THE Governors of the East Retford Dispensary, at a special meeting held at the Town Hall, the Mayor in the chair, have passed a resolution in favour of reconstituting it on the provident principle; and it is also proposed to establish a cottage infirmary in connexion with it.

SMALL-POX, which apparently had disappeared in Dublin, caused five deaths in the week ending Dec. 22nd. Four deaths, however, would be more correct, as a death from varicella or chicken-pox had been tabulated under the head of small-pox.

THE Local Government Board have requested the justices of Monmouthshire to appoint a public analyst, which they have not done hitherto.

THE MEDICAL ASPECTS OF THE WAR.

A FORTNIGHT of severe Bulgarian winter weather has sufficed to bring into painful prominence the defects of Russian military administration. It is, perhaps, rather to the vices of Imperial bureaucracy than to the want of foresight that the winter, although its severity has not fallen upon Bulgaria so early as customary, has found the Russian troops but partially provided for it. Muzzled as the Russian press is, yet from time to time murmurs have been permitted to issue from it of the procrastination of the authorities in completing orders long ago given in view of a winter campaign in Bulgaria and Armenia. Now the breakdown of the bridges across the Danube comes to add to the difficulties interposed by departmental mertia and want of foresight. There is reason to believe that the sudden setting in of the cold and the difficulties of transport have told with great severity upon some divisions of the Czar's forces, as yet unfurnished with their winter clothing and shelter. But as little general information as to the state of the Russian troops has come since the setting in of winter as of the Turkish.

At a recent meeting of the shareholders of the Volga-Kama Bank, when it was decided to contribute 40,000 roubles in addition to 10,000 roubles previously given to the aid of the army in the field, the following information was given as to the action taken by a committee of delegates of the private banks of the capital appointed to regulate the expenditure of 400,000 roubles given for the same purpose by the St. Petersburg banks:—This committee, it was reported, has contributed 100,000 roubles to the Russian Red Cross Society for the construction of large hospital tents, and thus enabled that Society to purchase for the purpose the materials of the Vienna Exhibition buildings. The committee has also contributed to the same Society another 100,000 roubles for the organisation of sanitary echelons for the intermediate aid of the wounded between the field of battle and the ambulances. It has also purchased and forwarded to the army, at a cost of 150,000 roubles, pelisses, warm boots, warm coats, &c., for 3000 men.

The following is the latest return of the commissioners and medical staff appointed and maintained by the Stafford House Committee and Lord Blantyre, and serving with the Turkish forces:—*Class I.*: Special commissioner, Mr. Barrington Kennett; assistant, commissioners Mr. W. L. Stoney in Constantinople and Roumelian district, Mr. E. R. Pratt in Danube district.—Sections (each section is named after the first name given—e.g., Attwood's Section): 1. Drs. Attwood, Hume, and Sandwith, with assistants; Shipka; field ambulance with Reouf Pasha's head-quarters. 2. Drs. Eccles and Minassian, Chemist Théogène Akestonidè, with assistants; Philippopolis; hospital established in Bulgarian bishop's palace, with 200 beds. 3. Drs. McIvor, Kirker, Assistant-surgeons Stewart, Sketchley, Azzopardi, Chemist Spanopoulos, Secretary J. Cowan, with assistants; Adrianople; hospital established in wing of cavalry barracks, 300 beds. 4. Dr. Barker, with assistants, at three soup-kitchens; Roumelian railway transport of sick and wounded in charge of four waggons, fitted as ambulance by railway company. 5. Dr. Hayes, with assistants, at two soup-kitchens; Rustchuk-Varna railway transport of sick and wounded, special service of carriages between railway and hospitals at Varna. 6. Drs. Busby and Wattie, Assistant-surgeon Boyd, Mr. Cullen, secretary, with assistants; Sophia; district hospital, 150 beds. 7. Dr. McQueen and Dr. Edmunds, with assistants; Rustchuk; hospital established in railway company's workshops, 220 beds. 8. Dr. Neylan, with assistants; Stamboul; attached to Marco Pasha's hospital military school. 9. Drs. Ryan, Woods, Harvey, and Morissot, with assistants; Erzeroum; fixed ambulance at disposal of Ghazi Mukhtar Pasha, 250 beds. 10. The central offices of this class are in Constantinople, and have attached to them an accountant (Mr. Richd. A. Williams), an assistant clerk (Mr. A. Lanzoni), and an officer in charge of the depôt (Mr. Rodrick W. Williams). To this class also belongs a soup-kitchen service, organised by the Commissioner. Soup-kitchens have been established on the Roumelian Railway, at the stations of Tirnova-Semenli, and Tchourlou, and at the Stamboul terminus. At these kitchens, soup, rice, bread, coffee, tobacco, &c., are served out, as also at two depôts on the Rustchuk-Varna line. Over 25,000 rations of soup, &c., had been supplied from these kitchens up to Nov. 28th.—*Class II.*: Surgeons under the orders of Lord Blantyre. 1. Drs. Casson and Buckby, with assistants; Kars; district field ambulance formerly attached to Mukhtar Pasha's head-quarters. These gentlemen first served three months at Erzeroum; they were next present with the forces near Kars, and served in the field in the actions fought there. Afterwards they volunteered for service in Kars, and were in that town at the time of its capture by the Russians. They were last heard of as prisoners at Tiflis. 2. Drs. Fetherstonhaugh, Pinkerton, and Denniston, with assistants; Erzeroum; the British hospital. Assistant-Surgeon Stewart, mentioned in Section 3, Class 1, is also one of Lord Blantyre's surgeons. Lord Blantyre, moreover, sent out seven other surgeons, who were transferred, after three months' work, to the Stafford House committee, and whose names are included in Class I. Dr. Guppy, also sent out by Lord Blantyre, died of typhoid fever at Erzeroum on the 17th November. Drs. Walter, Eccles, Lake, Beresford, Neylan, and Sketchley have had severe illnesses, owing to exposure and overwork.—*Class III.*: List of Stafford House *personnel* attached for service to Red Crescent Society. 1. Drs. Stoker, Weller, Banfather, and Smith, with assistants; Red Crescent transport service in Kezanlik and Plevna districts. 2. Drs. Cullen and Kouvaras, Red Crescent hospital at Varna; 60 beds. Three of Lord Blantyre's surgeons, Drs. Mackellar, Robert Pinkerton, and Macpherson, were lent to the Red Crescent ambulance in the Orkhanie district.

We have been favoured by Lord Blantyre with the following extracts from letters received by him from the seat of war in Armenia.

Consul Zohrab to Lord Blantyre.

"Erzeroum, November 29th.

"Our second hospital is getting into order, and I trust will do as much good as the 'English Hospital' has done, and that has indeed been great. I cannot speak in terms of

too high praise of Dr. Fetherstonhaugh. He is a most steady, regular worker, very quiet and firm, just the man to have at the head of the hospital. He is much beyond his years in judgment and steadiness, and I feel a sincere pleasure in thus bringing him to your lordship's favourable notice. I have been much gratified in hearing from Dr. Ryan and Mr. Harvey, who are well acquainted with the hospitals in Bulgaria, that none surpass ours in order, cleanliness, and organisation, while many are far behind. The small cost at which all has been done has also surprised them. Such observations fully repay me for my share of the trouble. The Russians have just sent in notice that about 6000 wounded from Kars will be given over to this town. This would crowd us fearfully if they could all come, but I fear, with the weather we have, certainly not above half the number leaving Kars will reach Erzeroum. Nothing can be done from this side to alleviate the suffering of the poor fellows. The Russians will, I am sure, feed them well, but the jolting and exposure will kill very many."

On December 24th Dr. Fetherstonhaugh telegraphed:—"Am unwell; start home as soon as possible. Dr. Denniston in charge of English hospital." Dr. Fetherstonhaugh has served at Erzeroum constantly since July 15th—upwards of five months.

Dr. Denniston to Lord Blantyre.

"Erzeroum, Nov. 27th.

"We have been expecting and waiting for more fighting. Now that the hospital work is rather lighter, I think that we would not be sorry to have another fight, which would probably decide the fate of Erzeroum for the winter. This state of uncertainty, as to whether the Russians will be here in the morning or not, is anything but pleasant. The Turks are evidently determined to make a hard fight of it, as they are always on the alert.

"The cold at night is intense, the thermometer registering about 20° of frost. The troops must suffer severely. I got one man yesterday with all his ten toes completely gone from frostbite, and we heard that two Russian sentries had been frozen to death the other night, and people say that it is only beginning! What will it be in mid-winter?"

ROBERT JAMES GRAVES, M.D., F.R.S.

THE Irish papers of December the 20th contain full and interesting accounts of the unveiling of the statue of Dr. Graves, in the large Hall of the College of Physicians, by his Grace the Duke of Marlborough, Lord-Lieutenant of Ireland, in the presence of a large and distinguished audience. The statue is the work of Mr. Albert Bruce Joy, of London. It represents Dr. Graves standing attired in his academic robes, in the act of lecturing. It is much praised by the Dublin press. It is said to give most truthfully the expression of the face. The figure and the dress are wrought out with marvellous success and artistic effect. It is right to say that the credit of inaugurating the movement, which has eventuated so satisfactorily, is due to Dr. Hudson, lately president of the College. Associated with him as secretaries were Dr. Stokes and the late Sir William Wilde; Dr. Duncan was the honorary treasurer of the fund. Graves did not need this monument in order to be remembered either in Ireland or in Europe. But it is not the less creditable to Ireland that it should be raised, and especially so raised by men, his peers in medicine, supported and sanctioned by her Majesty's representative in Ireland. Graves will live in the history of medicine and in the history of Ireland. A physician who "inspired" Trousseau; who was "once the teacher, then the colleague, and ever the friend" of William Stokes; who revolutionised clinical teaching in Ireland; who anticipated the work of Marshall Hall; who "fed fevers"; who suggested the establishment of international medical observatories, for watching the movements and the laws of epidemics; who was one of the first to assert the claims of the dispensary surgeons of Ireland in the year 1847, when nearly seven per cent. of the Irish practitioners died, mostly of typhus; who first described *exophthalmic goitre;* who loved the deepest questions in physics and physiology, next to the most urgent questions in therapeutics and hygiene; and who occupied his leisure in charming essays, on subjects as various as the state of medicine in Turkey and the war in Affghanistan;—such a physician lives in literature, in science, in the history of his country, in the history of medicine, in the gratitude of his countrymen, in the respect of statesmen, and in the esteem of his successors.

POST-MORTEMS IN WORKHOUSES.

THE following is the official reply of the Local Government Board to the Poor-law Medical Officers' Association on the subject of post-mortem examinations in workhouses:—

"Local Government Board, Whitehall, S.W., Jan. 1st, 1878.

"SIR,—I am directed by the Local Government Board to acknowledge the receipt of your letter of the 14th November last, in which, on behalf of the Council of the Poor-law Officers' Association, you bring under their consideration the question of allowing the medical officers of workhouses to make post-mortem examinations of the bodies of paupers who die in workhouses.

"I am directed to state that the Board have communicated with their medical officer, and have carefully reconsidered the subject, and that they see no reason to alter the views which have already, on former occasions, been expressed by them upon it. The Board are of opinion that a post-mortem examination should not be made of the body of a workhouse lunatic except by the direction of a coroner, when holding an inquest, or the direction of the board of guardians for any especial, urgent, and particular reason which they may deem of sufficient importance to render such an examination necessary, or at the request of the relatives of the deceased.

"The Board also direct me to state that they think that a board of guardians would hardly be justified in directing in any particular case that a post-mortem examination should take place, if the nearest relative of the deceased objected clearly and decidedly to that course.

"The Board, under these circumstances, are not prepared to take the proceedings suggested by the Poor-law Medical Officers' Association, or to issue any minute or regulation on the subject.

"I am, Sir, your obedient servant,

"(Signed) HUGH OWEN LUND,
Assistant Secretary.

"To J. W. Barnes, Esq., Hon. Secretary to the
Poor-law Medical Officers' Association,
3, Bolt-court, Fleet-street, E.C."

Correspondence.

"Audi alteram partem."

SAYRE'S APPARATUS FOR SUSPENSION IN SPINAL DISEASE AND CURVATURE.

To the Editor of THE LANCET.

SIR,—Having used Sayre's apparatus, I have found the patients, of variable age, generally complain of the compression exercised by the collar upon the soft parts covering the base of the lower jaw. In persons of any weight this was severe, and a decided drawback to the favourable acceptation of the instrument. To obviate this lateral pressure, as well as the backward traction of the chin (frequently unbearable), and to prevent a desirable method of treatment getting into discredit, I have tried more than one form of chin-sling. I find that the addition of a stout wire, somewhat horseshoe-shaped, sewn to the outside of the original collar, leaves little to be desired. The wire stay has the effect of warding off that pressure which was inevitable with the use of the original collar. This modification has been adopted by Messrs. Kröhne and Sesemann, instrument makers, Duke-street, Manchester-square.

I am, Sir, &c.,

C. F. MAUNDER,
Surgeon to the London Hospital.

Queen Anne-st., W., Dec. 1877.

DISCHARGE OF BILIARY CALCULI BY ULCERATION THROUGH THE ABDOMINAL PARIETES.

To the Editor of THE LANCET.

SIR,—I brought the following case to the notice of the Halifax Medical Society, and as it is apparently a case of such rare occurrence (none of the medical gentlemen present having met with a similar one), you may probably deem it worthy of insertion in your columns.

Mr. B——, aged sixty-five, residing at King Cross, near Halifax, consulted me on August the 25th last. He complained of nausea and vomiting, great pain and tenderness over the abdomen, about the junction of the right hypochondriac and epigastric regions; in this situation there was dulness on percussion, and a visible enlargement extending down towards the umbilicus. The patient's skin, especially that of the face, was of a dusky yellow hue, giving one at first the impression that he was jaundiced, though on closer inspection no jaundice was found to exist. He attributed his symptoms to straining himself by wheeling a heavy barrow about a month previously. Has been a very temperate man, and up to his present illness has always enjoyed excellent health. For the last two years or more he has felt a painful sensation on leaning forward, as in the act of writing at a table, over a spot (to use his own expression) that he could cover with his thumb, which he indicated by placing his thumb immediately below the ribs, about three or four inches to the right of the median line.

I saw nothing more of him till September 8th, when I was requested to visit him. On my arrival I found that an abscess had formed, and burst during the previous night; a quantity of fetid matter had been discharged, together with some twenty or thirty gall-stones. These stones were almost colourless, friable, and soluble in ether; they varied in size from a pin's head to a large pea (the largest weighing one drachm), the smaller ones being nearly spherical, the larger angular and more irregular in shape, appearing as if formed by the fusion of several smaller calculi. The opening in the abscess was situated about one inch above and a little to the right of the umbilicus; a probe could be passed about three inches into this opening. For several days two or three calculi were discharged daily. The discharge, which at first was thick and purulent, in a few days became thin and serous, but contained no bile. The patient's health rapidly improved, his appetite becoming good, the nausea and vomiting ceasing, and he no longer experienced any pain or tenderness in the abdomen.

Sept. 14th.—About a dozen more calculi were loosened and extracted by means of a probe. The swelling and induration, which up to this time had existed above and around the umbilicus, now rapidly subsided.

19th.—Several small calculi were discharged to-day, and a large one, very triangular in shape, was with great difficulty extracted. The probe passes in now to the extent of four inches, and the discharge for the first time contains bile, the presence of which is readily ascertained by placing a few drops of the discharge and a drop or two of nitric acid on the bottom of a plate, and allowing them gradually to mix; a green colour rapidly changing to red is produced.

After this no more calculi were discharged. The patient soon regained his accustomed health, and can lean forward without feeling any pain. The opening, which has assumed the character of a fistula, is about large enough to admit of a quill, and is still four inches deep. There is a slight discharge of pale-yellow viscid bile; sometimes two or three drachms can be collected by making firm pressure over the liver.

The absence of jaundice and the absence of bile in the discharge previous to, and its appearance immediately after, the expulsion of the last calculus (that peculiar triangular shaped one) would point to the cystic duct as the original seat of the abscess, owing to the impaction of gall-stones. If such was the case, it would tend to substantiate the statement made by many authors, that the pain caused by the passage of gall-stones is not produced until they enter the common bile duct, and that their presence in the cystic duct causes little or no pain. In this case the abdominal pain and tenderness was not in excess of what one would expect of a deep-seated abscess making its way to the surface; there was none of that excruciating agony which accompanies the passage of gall-stones into the bowel.

Whether the pain felt on leaning forward for two years was due to the presence of gall-stones in the cystic duct it is impossible to say; but this can be said, that it was not felt after the discharge of all the stones.

I am, Sir, yours truly,

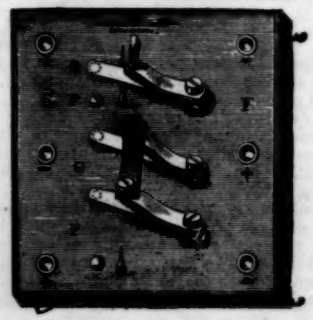
HUGH ALEXANDER COOKSON, M.R.C.S.

Halifax.

THE CURRENT INTERRUPTOR-ALTERNATOR-COMMUTATOR.

To the Editor of THE LANCET.

SIR,—It is frequently found convenient, both in physiological and therapeutical applications, to be able to send alternately the faradaic and the galvanic current through the same rheophores. To render this possible without increasing the number of accessories, I have devised a little instrument which, as its name implies, combines with that of alternator the functions of interruptor and commutator. It can be made small enough to be fitted to the element board



of the galvanic battery, which then possesses the chief advantage of the "combined" arrangement. The wires from the galvanic battery are fixed to G (+ and —) those from the faradaic to F (+ and —). The points of attachment of the rheophores are marked + and — at the bottom of the drawing. When the single index rests on G (as in the illustration), the current is reversed by moving the double index from G to F. When again the single index is on F, the current passing is galvanic or faradaic when the double index points to G or F respectively. The single index also serves as interruptor by being brought to only half-way between G and F. The signs are so arranged as to give the direct current, both faradaic and galvanic, when the instrument acts as alternator.

I am, Sir, yours &c.,

A. DE WATTEVILLE, M.A., B.Sc., M.R.C.S.,
Electro-therapeutical Assistant to University College Hospital.

December, 1877.

THE DENTAL LICENCE.

To the Editor of THE LANCET.

SIR,—I have been in practice as a dental surgeon for upwards of twenty-five years. I am a Member of the College of Surgeons, and, as the pupil of Mr. Edwin Saunders, I spent four years in learning the mechanical part of my profession. I therefore lay claim to having, in the most legitimate manner, obtained a knowledge of my specialty. It seems, however, that the Council of the College of Surgeons are of a different way of thinking, as, by the resolution they have lately come to in respect to the dental licence, men like myself, who declined to accept the distinguished honour of L.D.S. when it was offered to us, on the ground that the greater diploma included the less, are now to be considered as unfitted to sign the certificates of those who may in future present themselves for examination in dental surgery; whilst those who for years have been only our mechanical assistants, but who have succeeded in obtaining the dental licence, are to be permitted to do so.

Comment is unnecessary. I will not occupy your valuable

space further than to add that, in my belief, every candidate for the membership of the College does or ought to know fully as much of the anatomy, physiology, and pathology of the teeth as is required of those who present themselves for the dental licence; and that, as far as the practical and manipulative knowledge of dental surgery is concerned, the examination at the College is a complete farce. Many, Sir, like myself, feel how much we are indebted to you for the able and consistent manner in which for some time past you have endeavoured to point out to the Council of the College how suicidal was their policy, as well as how palpably unfair was their determination on this subject towards those members of their College who are practising dental surgery, and whose sole aim in any movement which they have lately made has been the raising of their specialty both ethically and scientifically.

I am, faithfully yours,

January 2nd, 1878. WM. DONALD NAPIER.

SUBGLENOID DISLOCATION OF SHOULDER, OCCURRING DURING AN EPILEPTIC PAROXYSM.

To the Editor of THE LANCET.

SIR,—You may perhaps think the following case worthy of record.

Late one evening this month I was called to see a strong married woman, aged forty, who was the subject of occasional mixed seizures of epilepsy and hysteria. Almost as soon as I entered the room she was seized, whilst in her chair (not being allowed to fall), with a fit of short duration, during which she was violently convulsed, appeared quite unconscious, turned livid, and foamed at the mouth, but appeared, almost instantly the paroxysm was over, to recover consciousness.

I left her, and she was put to bed, but in the morning I received an urgent appeal to go at once. I found her sitting up in bed in great pain in the left shoulder, which I at once saw was dislocated. She declared that although over-night she appeared quite conscious, still she remembered nothing of what had occurred till an hour or two after being in bed, when she began to feel her shoulder very painful, and it had continued to get more and more so, until the pain was unbearable.

I attempted to reduce it, but it gave too much pain. I therefore got my friend Dr. Cresswell Baber to give her chloroform, under the influence of which I at once reduced the deformity with the greatest ease.

N.B.—The shoulder had never been dislocated before.

I am, Sir, yours truly,

Brighton, December, 1877. J. M. E. SCATLIFF, M.D.

TREATMENT OF STUMPS AFTER AMPUTATION: A NEW METHOD.

To the Editor of THE LANCET.

SIR,—I desire to lay before the profession, through the channel of your estimable journal, a method of treating stumps after amputation which I have seen nowhere practised, and which has yielded the best results in my practice. Its simplicity will be patent to all, and its efficacy easily verified. My manner of procedure is the following. We shall suppose an amputation at the wrist. I apply the tourniquet over the brachial artery; I cut my flaps very carefully, that they may adjust as closely as possible; and I bring the divided parts together, and keep them in apposition by means of strips of linen one inch in width, soaked in a solution of equal parts of tincture of muriate of iron and water. I lay my strips first horizontally, and then spirally, using moderate and uniform pressure so as to prevent subcutaneous oozing of blood, and I further saturate the compresses with iron. I now slightly turn the screw of the tourniquet to allow of a little blood to reach the bandages. The blood coming in contact with the iron undergoes a chemical change, and forms a thick adhesive mass, which closes the lips of the wound, and excludes all contact of air. Shortly afterwards I remove the tourniquet, when no hæmorrhage can take place owing to complete closure of the wound and through compression over the veins and arteries. To ensure the latter effect more thoroughly I previously envelop the limb up to the elbow with rollers of bandage firmly and moderately placed from below upwards. As regards the use of the tourniquet, perhaps it would be better still to substitute Esmarch's elastic bandages.

The points of practical importance gained by the method I submit are the following. The wound heals by first intention; the healthy living tissues uniting without suppuration, or, in other words, no "putrefactive fermentation" takes place, just the same condition—the aseptic—as claimed for Professor Lister's method; the non-use of ligatures and sutures, a frequent cause of septic mischief; and last, though not least, its simplicity and astonishing results.

I confess I have had few opportunities of testing the merits of my plan of treatment, but the whole process is based upon such scientific principles that I dare hope that it will be essayed by many, and the results honestly reported. The first trials may be made in the case of amputation of fingers, but even in amputation of the thigh it will be safe and satisfactory. To the timorous the proposition will seem hazardous, but the great surgical value of such a procedure, if successful, will warrant the attempt. Nor should we forget that "Qui risque rien, ne gagne rien"; the gain being a great boon to many patients. Nothing should be overlooked that is calculated to shorten the duration of surgical treatment or enhance the prospects of ultimate recovery.

Quebec, September 27th, 1877. Dr. ED. GAURVEAU.

P.S.—I shall not fail to communicate any further success I may have obtained in this new field of surgical venture.

THE SOUNDS OF THE HEART.

To the Editor of THE LANCET.

SIR,—Allow me to lay before your readers a view of one of the heart-sounds which, so far as I am aware, has not been advanced before. It is this: that the first sound of the heart is produced by the collision of its ventricular walls. It is, I think, best imitated by bringing quickly together the tips of the finger and thumb.

By the contraction of the ventricular walls, in a healthy heart, no one doubts that all the contained blood is driven out. This, I think, implies obliteration of the ventricular cavity, and, at the very least, actual contact of the walls. But the contraction, more especially of the left ventricle, is so powerful that it seems to me reasonable to believe that the contact is forcible enough of itself to produce the first sound.

To explain according to this view those cases in which the first sound is partially or entirely replaced by a murmur, I should say that as there is then constant communication to a greater or less extent between the left auricle and ventricle, the blood in the latter is never completely evacuated, so that it prevents actual contact of the walls, and may, indeed, by the compression to which it is subjected by the contracted and closely approximated walls, be more importantly concerned in the production of the murmur than the passage of the blood over the roughened edges of the valves.

I am, Sir, yours obediently,

Peterborough, Dec. 25th, 1877. C. R. ILLINGWORTH, M.B.

BENGAL.

(From a Correspondent.)

THE valuable report of Surgeon-Major A. J. Payne, M.D. Lond., health officer of Calcutta, for the quarter ending September 30th, 1877, shows that at last there is some chance of sanitation in the "City of Palaces" becoming something more than a sham, and that the health statistics, instead of being, as formerly, not worth the paper they were written on, are really a fairly correct statement of the public health in Calcutta.

Dr. Payne, who in 1866 volunteered to start a Lock hospital in Calcutta, and who has taken great interest in the subject of hygiene, was the object of much animadversion on his appointment as health officer some two years ago at a salary of 1000 rupees per month, as he already held several well-paid appointments. Dr. Payne is, I believe, now the best paid pluralist in the Indian Medical Service.

Those who remember Calcutta three years ago, with its twenty-eight bazaars reeking with every possible kind of filth, with its numerous "tanks" full of stagnant water, which was nothing better than a concentrated essence of bazaar refuse, excreta, and excrement, and in which natives freely bathed, and then drank, and washed their cooking utensils, will appreciate the change. True, there was then a good water-supply, but this was not generally laid on to the poor and crowded native parts of the town. And while the principal roads were watered every evening with good water, so that the Europeans might take their evening drives in comfort, the miserable natives were left to drink this tank-sludge, and contract cholera as they might.

The cholera statistics of outbreaks among natives are, as a rule, worthless and delusive. Dr. Walker, the inspector of jails in the North-west Provinces, in his report for 1875, called attention to this fact. There is little doubt that in the districts cases of fever, dysentery, heatstroke, opium-poisoning, and diarrhœa, are returned by the ignorant native police as cholera, no educated practitioner, either English or native, even seeing 90 out of 100 cases.

Dr. Payne, by organising a regular service for the removal of nightsoil, the "Halacore system," has at his command a large number of sanitary inspectors. Calcutta is divided into eighteen separate districts, each with its own staff. These men keep him well informed of any cases of epidemic disease; thus he found that twelve cases reported as cholera were not so, and that two cases ascribed to fever (ague) had died of cholera. There was a remarkable exemption from cholera in May, June, and July. This Dr. Payne clearly shows was due to the "de-watering" of, or running off the water from, the tanks. The returns of the last eleven years show that the amount of cholera falls with the first rainfalls, which fill the tanks, and dilute their filthy contents. Analysis showed that the water of many tanks and wells was saturated with poison. Dr. Payne reports that the tank water is now much more commonly drunk than it is supposed to be. He states: "After discharging the water from one small tank, a few puddles were left in the hollow of its bed. A man was seen scooping the slush from one of these puddles and mixing it with the materials of some confection that he was preparing for sale. In another place a rain-shower had left a similar puddle in one of the filthest of open ditches, and a woman was busy by the side of it making fish patties with the aid of its contents. That these persons were following a common practice there is no doubt." Dr. Payne states that, by the public sweepers (*mehters*), "houses are discovered, almost daily, whose latrines consist of inner rooms wherefrom the night-soil has not heretofore been removed at all." The condition of these houses could not have been worse than the disgraceful state of one of the moats of Fort William three years ago.

Recently I was called to a native officer suffering from colic pains with severe diarrhœa. His dejections I found were buried in a hole, a foot in diameter and two feet deep, dug in the floor of the inner room of his house, which was some ten feet square. Natives have not a notion of the meaning of cleanliness. Sanitation is quite beyond them.

The Medical School for Native Women, started by Dr. Corbyn, in the north-west, has proved a failure; it has been accordingly closed. The scholars were apt, but their countrywomen have not the confidence in them that they have in European women. It is significant that "women doctors" appear to find as little favour among the women of India as they do among the British women. Dr. W. Walker reports that there is a "Medical Zenana Mission" at Allahabad, which is aided by Government, and which is under the direction of Miss Seward, M.D. (I believe an American lady). In 1875 she gave aid to 398 women and 591 children; there was nothing remarkable about the type of cases; the daily average attendance was *six females and eight children*. He adds, "It is surprising that the native females of Allahabad do not in larger numbers avail themselves of Miss Seward's services. On the female side of the Colvin Dispensary, under the charge of Assistant-surgeon Ram Lal Chuckerbutty, the number of new cases treated during the year was 4025 females and 2400 children." Native prejudice against the sex hampered the native female doctors at every step, so Dr. Corbyn affirms, and apparently in this respect the European fares little better than her coloured sister. The fate of the Dinapore School is a suggestive one for those who advocate "women doctors" for India."

Nov., 1877.

Obituary.

GEORGE F. COLLIER, M.D.

DR. COLLIER died recently at Hammersmith at the age of seventy-eight. The deceased was Physician in Ordinary to William IV., and in his time enjoyed considerable reputation in his profession, but he had so long ceased to practise or take any active part in it that he was comparatively unknown to the present generation. Studying at Guy's Hospital, he became one of three lecturers there, of whom the other two were his intimate friends, Sir Astley Cooper and the late Sir Benjamin Brodie. He had a large number of private pupils, in accordance with the then prevailing custom, and altogether about 3000 students were at one period or other under him. He carried on a large practice for many years at 32, Spring-gardens, his suburban residence for many years being Bohemian-house, Turnham-green, where he passed the last twenty years of his life in perfect retirement. He became L.S.A. in 1819, M.D. Leyden in 1828, and M.R.C.P. in 1831. He was offered the M.R.C.S. by the London College, but declined it. He was the author of several medical works, among them being Collier's "Celsus" and the "Code of Safety."

DUNBAR WHITE, M.D.

DR. WHITE was born at Sorbie, Wigtownshire, in 1804, and received his early education at the parish school there. He afterwards studied for the ministry in the University of Edinburgh, where he graduated as A.M. in 1829, and was on the eve of being licensed as a preacher when he turned his attention to the medical profession. He became an M.D. Edinburgh in 1833, and L.R.C.S. Edinburgh in the following year, and subsequently practised at Whithorn, Wigtownshire, for upwards of forty years, where he died on the 27th ult., at the age of 73, leaving a widow, four daughters, and three sons. He was a Conservative in politics, and a staunch member of the Established Church. His death has caused a blank which will be long felt and greatly deplored by a wide circle.

Medical News.

APOTHECARIES' HALL.—The following gentlemen passed their examination in the Science and Practice of Medicine, and received certificates to practise, on Dec. 27th:—

Campbell, Wm. Fredk., Chippenham-road, St. Peter's-park.
Lloyd, George Jordan, South Wreath, Birmingham.
McCarthy, George, Kinmare, Ireland.
Mac Ilhatton, Alexander, Treorky, South Wales.

The following gentleman also passed the Primary Professional Examination:—

Dunlop, James Hay, Guy's Hospital.

DR. EDWARD JONES, Caerffynnon, Dolgelly, qualified as a magistrate for the county of Merioneth on the 1st instant.

MR. JOHN TAYLOR, surgeon, dropped down dead, from disease of the heart, at the St. James's Railway Station, Liverpool, on Friday evening in last week.

AT the West Riding Christmas Quarter Sessions, Leeds, £20,000 was voted towards the completion of the new buildings for the South Yorkshire Lunatic Asylum. The amount is to be raised by loan.

THE LATE DR. GRIFFITHS, OF DUBLIN.—A subscription list has been opened for the family of this gentleman, who have been left in poor circumstances, and the Council of the College of Surgeons have voted the sum of £100 to his widow in furtherance of this object.

THE LATE MR. CHARLES TROTTER, F.R.C.S. ENG.—The Stockton guardians, at their last meeting, passed the following resolution, and instructed their clerk to forward a copy of it to Mrs. Trotter:—"That this Board desires to express its deep regret at the death of Charles Trotter, Esq., J.P., one of the oldest and most efficient members, together with its sincere condoleuce with Mrs. Trotter and her family in their irreparable loss."

AT the Leeds Quarter Sessions, Alfred Kirby, a blacksmith, has been sentenced to six months' imprisonment with hard labour for an assault upon Dr. Arthur Robert Campbell, on the 2nd of December. The prosecutor was returning home about 10 o'clock on that evening, and on passing the end of Crown Point-road saw about a dozen men standing in a cluster drinking beer. They used violent language, and one of them struck him. He employed his stick in self-defence, whereupon the prisoner dealt him a blow on the head with a stone bottle, inflicting a severe cut.

HEALTH OF IRELAND.—During the quarter ending 30th September last, there were registered in Ireland 32,798 births, a number equal to an annual birth-rate of 24·6 in every 1000 of the population; and 19,039 deaths, representing an annual mortality of 14·3 per 1000. The deaths from the eight principal zymotic diseases numbered 1946, being below the average. Of these, fever caused 620 deaths, diarrhœa 382, whooping-cough 355, measles 323, scarlatina 180, diphtheria 69, simple cholera 9, and small-pox 8. Sanitary improvements are reported from several districts; but an immense deal still requires to be done, owing to bad sewerage, dirty houses and yards, absence of good water, apathy and filthy habits of the inhabitants, and the neglect of the sanitary authorities.

Medical Appointments.

BARRAS, J., M.D., L.F.P.S.G., has been reappointed Medical Officer for the Govan District of the Govan Combination, Lanarkshire.

BURD, E., M.D., C.M., has been appointed Consulting Physician to the Salop County Prison, Shrewsbury, vice Johnson, resigned.

CLARKE, F. W., M.R.C.S.E., L.S.A.L., has been reappointed a Surgeon to Sir John James's Charity, Bury St. Edmunds, for the ensuing year.

CLAYTON, N. G., L.R.C.P.Ed., L.R.C.S.Ed., has been appointed Medical Officer to the Galway Union Workhouse Infirmary and Fever Hospital, vice Cleland, resigned.

COCKS, C. C., M.D., M.R.C.S.E., L.S.A.L., has been reappointed Medical Officer of Health for the Ross Urban Sanitary District.

COOMBS, R. H., L.R.C.P.I., M.R.C.S.E. & L.M., L.S.A.L., has been appointed a Medical Officer in Ordinary to the Bedford General Infirmary, vice Wharton, deceased.

CRADDOCK, F. H., M.R.C.S., L.S.A., B.A., has been appointed Assistant Medical Officer to the Worcester County Asylum, Powick, vice Lovatt, resigned.

CRAIG, J., M.D., C.M., has been appointed Medical Officer for the Partick District of the Govan Combination, Lanarkshire, vice Henderson, whose appointment has expired.

DENTON, E. W., L.F.P.S.G., L.S.A.L., has been appointed Medical Officer and Public Vaccinator for the No. 4 District of the Hemsworth Union, Yorkshire, vice Burman, deceased.

FALKINER, F. T., L.R.C.S.I., L.K.Q.C.P.I., & L.M., has been appointed Surgeon to the Open Line of Railway, Great Western System, Cape of Good Hope.

FLEMING, H., M.D., has been appointed Medical Attendant to the Royal Irish Constabulary, Omagh, co. Tyrone, vice Love, resigned.

GOOD, J., M.R.C.S.E., L.S.A.L., has been reappointed Medical Officer of Health for the Dorchester Urban Sanitary District, at £21 per annum for three years.

GROUND, E., L.R.C.P.I., M.R.C.S.E., L.S.A.L., has been appointed House-Surgeon to Addenbrooke's Hospital, Cambridge, vice Wherry, resigned.

HALE, C. D. B., L.R.C.P.I., M.R.C.S.E., has been appointed Medical and Surgical Registrar to the Victoria Hospital for Children, Queen's-road, Chelsea.

HARVEY, G., L.R.C.P.Ed., L.R.C.S.I., L.A.H.D., has been reappointed Medical Officer for the Cromford District of the Bakewell Union, Derbyshire, for three years.

HINNELL, G. J., M.R.C.S.E., L.S.A.L., has been reappointed a Surgeon to Sir John James's Charity, Bury St. Edmunds, for the ensuing year.

JONES, R. H., M.R.C.S., L.R.C.P., has been appointed House-Physician to the Northern Hospital, Liverpool.

KNOX, J., M.D., L.R.C.S.Ed., has been reappointed Medical Officer for the Hartington Middle Quarter District of the Bakewell Union, for three years.

MCGEAGH, W., M.D., M.Ch., M.R.C.S., has been appointed Junior House-Surgeon to the Northern Hospital, Liverpool.

MARSHALL, J., M.R.C.S.E., L.S.A.L., has been reappointed Medical Officer and Public Vaccinator for the No. 5 District of the Chelmsford Union, at £34 per annum and fees.

MASON, S. B., L.R.C.P., L.F.P.S.G., L.S.A.L., has been appointed Medical Officer of Health for Pontypool, Monmouthshire, vice Williams, resigned.

MONTGOMERY, W., L.R.C.S.Ed., has been appointed Medical Officer for the Derwent District of the Weardale Union, co. Durham.

MORGAN, J. H., F.R.C.S., has been appointed Acting Surgeon to the Inns-of-Court Volunteers, vice May, deceased.

PEARSE, F. E., M.D., M.R.C.P.Ed., M.R.C.S.E., has been appointed Medical Officer for the newly-arranged Pontypool District of the Pontypool Union.

PINNIGER, B., M.R.C.S.E., L.S.A.L., has been appointed a Medical Officer to the Ryde Branch of the Hampshire Friendly Society, vice Barrow, resigned.

PLETTS, J. M., M.D., M.R.C.S.E., L.S.A.L., has been appointed a Medical Officer to the Ryde Branch of the Hampshire Friendly Society, vice Barrow, resigned.

POTTER, H. P., M.R.C.S., L.S.A., has been appointed Surgical Registrar to St. Thomas's Hospital.

PRYTHERCH, H., L.R.C.P.Ed., M.R.C.S.E., has been appointed Medical Officer and Public Vaccinator for the Anglesey No. 2 District of the Bangor and Beaumaris Union, vice Jones, deceased.

SAYER, T., M.B., C.M., has been appointed Medical Officer and Public Vaccinator for the Ravenstonedale District of the East Ward Union, Westmoreland, vice Brumwell, resigned.

TAUNTON, W. W., M.B., M.R.C.S.E., L.S.A.L., has been appointed Resident Medical Officer to the St. Pancras and Northern Dispensary, vice Cooke, resigned.

Births, Marriages, and Deaths.

BIRTHS.

ATKIN.—On the 22nd ult., at Oldcastle, co. Meath, the wife of James Atkin, L.K.Q.C.P.I., of a son.

FEAR.—On the 14th ult., at Brenchley, the wife of William Fear, M.R.C.S.E., of a daughter.

HAMMOND.—On the 27th ult., at Nuneaton, the wife of William Hammond, L.R.C.P.Ed., of a daughter.

MCENERY.—On the 23rd ult., at Cerne-Abbas, the wife of William McEnery, L.K.Q.C.P.I., of a son.

SHEARER.—On the 21st ult., at Upper Parliament-street, Liverpool, the wife of George Shearer, M.D., of a son.

SMITH.—On the 28th ult., at Charles-street, Berkeley-square, the wife of Barton H. L. Smith, M.B., of a daughter.

WALLACE.—On the 26th ult., at Hackney-road, the wife of Frederick Wallace, L.R.C.P.I., of a daughter.

MARRIAGES.

HANDSLEY—HOULDEN.—On the 1st inst., at Saleby, Thomas A. Handsley, M.R.C.S.E., of Alford, to Elizabeth Houlden, eldest daughter of the late Richard Wright, of Burgh-le-Marsh.

MAHONY—SACRÉ.—On the 27th ult., at St. Matthew's, Oakley-square, by the Rev. Thomas Stevenson, M.A., Vicar of St. Mary's, Seymour-street, Euston-square, assisted by the Rev. Fergus Hill, M.A., of Manchester, Philip la Breniffe Mahony, L.R.C.S.Ed., L.R.C.P.Ed., to Josephine Marianne, only daughter of the late Joseph François Sacré.

DEATHS.

CHALMERS.—On the 15th ult., at Calstor, Lincolnshire, William Chalmers, M.D., aged 42.

COLLIER.—On the 23rd ult., at Chiswick, George Frederick Collier, M.D., aged 78.

CORMICK.—On the 30th ult., at Grange-gardens, Hammersmith, William Cormick, M.D., aged 58.

COTTON.—On the 26th ult., at Cavendish-square, Richard Payne Cotton, F.R.C.P.I., aged 56.

DAVIES.—On the 19th ult., at his residence, Castle House, Llanidloes, William Abel Davies, M.R.C.S.E., L.S.A.L., aged 45.

FORD.—On the 14th ult., at Kingsbridge, Devon, William Carwithen Ford, Surgeon, in practice prior to 1815, aged 88.

LE GROS.—On the 19th ult., at Wavertree, Lancashire, James Le Gros, M.R.C.S.E., aged 71.

MELDOLA.—On the 22nd ult., at Victoria-park-road, Hackney, Eleazar Meldola, M.R.C.S.E., aged 66.

TAYLOR.—On the 28th ult., at St. James's Railway Station, Liverpool, John Taylor, M.R.C.S.E., aged 70.

WAIND.—On the 28th ult., at Kirkby-Moorside, Yorkshire, William Waind, L.S.A.L., aged 59.

WALLIS.—On the 19th ult., at Castle-Cary, Charles Cornwallis Wallis, M.R.C.S.E., aged 79.

WHITAKER.—On the 29th ult., at Bacup, Edmund Whitaker, M.B., aged 50.

YOUNG.—On the 24th ult., at Dunning, Perthshire, John Young, L.F.P.S.G., aged 63.

[N.B.—*A fee of 5s. is charged for the insertion of Notices of Births, Marriages, and Deaths.*]

BOOKS ETC. RECEIVED.

Dr. R. H. Pierson: Compendium der Electrotherapie.
Dr. J. C. Thorowgood: Notes on Asthma.
The Organon. No. I., Vol. I.
The Royal London Ophthalmic Hospital Reports. December.
The Journal of Mental Science. January.
J. Duthie: Our High Death-rate and its Insanitary Causes.
Saxby's Weather Table and Almanac. 1878.
The Veterinary Journal. January.
The Veterinarian. January.
The Monthly Homœopathic Review. January.
Dr. G. Timms: An Essay on Consumption.
D. Hemming: Aids to Forensic Medicine.
W. Fearnley: Horses—their Examination as to Soundness, Sale, and Warranty.
Cassell's Illustrated History of the Russo-Turkish War.
Cassell's Science for All.
The Practitioner.
G. O. Trevelyan: Lord Macaulay's Life and Letters. Vols. I. & II.
Dr. J. Orth; Diagnosis in Pathological Anatomy.
Surgeon-Major J. E. Tuson, M.D.: Observations on the Efficacy of Burning Sulphur Fires in Epidemics of Cholera.
Dr. Garrett-Anderson: The Student's Pocket Index.

LIST OF CONTRIBUTORS FOR 1878.

THE following names are those of well-known members of the profession who, among others, have intimated their intention of contributing to THE LANCET during the year 1878:

Mr. ANNANDALE, Edinburgh.
Dr. ADAMS, Croydon.
Dr. M'CALL ANDERSON, Glasgow.
Mr. J. E. ADAMS.*
Dr. ALLBUTT, Leeds.
Mr. ALLCHIN.
Dr. ACKLAND, Bideford.
Mr. ADAMS, Maidstone.
Mr. ARMSTRONG, Newcastle-on-Tyne.
Dr. ADAM, Boston.
Dr. ANDREW, Shrewsbury.
Dr. ANDERSON, York.
Mr. ASPLAND, Dukinfield.
Mr. ATKINSON, Leeds.
Mr. ANGOVE, Camborne.

Dr. BROWN-SEQUARD.
Dr. BASTIAN.
Mr. BRAMWELL, Newcastle-on-Tyne.
Dr. L. BRUNTON.
Mr. BUTLIN, Camborne.
Dr. BROADBENT.
Mr. BARRY, Ramsgate.
Dr. BARCLAY, Banff, N.B.
Mr. BRYANT.
Mr. BUDD, Worcester.
Mr. H. L. BROWNE.
Mr. BALKWILL, Plymouth.
Dr. BUCHANAN, Glasgow.
Dr. BEAMISH, Cork.
Dr. BERESFORD, Oswestry.
Mr. BOYD, Kingstown.
Dr. BRAKENRIDGE, Edinburgh.
Dr. BUSZARD, Northampton.
Mr. BINDLEY, Birmingham.
Mr. BAYLEY, Kingston-hill.
Mr. C. BADER.
Mr. BELLAMY.
Mr. GOLDING BIRD.
Dr. BRAIDWOOD, Birkenhead.
Mr. A. G. BROWN.
Mr. W. M. BAKER.
Dr. BANNING, Gateshead-on-Tyne.
Mr. M. BECK.
Mr. BATE, Plymouth.
Mr. BARWELL.
Dr. BOND.
Dr. BRADBURY, Cambridge.
Mr. BRAMVELL, Richmond.
Dr. BROOKHOUSE, Nottingham.
Dr. BOWMAN, Sunderland.
Mr. BENNETT, Penzance.
Mr. BRADLEY, Manchester.
Mr. BROWNE, Liverpool.
Mr. BOGG.
Mr. BELCHER, Burton-on-Trent.
Dr. BROWN, Berwick-on-Tweed.
Mr. BARTLAM, Salop.
Mr. BRADEN, Lewes.
Dr. BRITTON, Halifax.
Dr. BRAITHWAITE, Leeds.
Dr. BEVERLEY, Norwich.

Mr. BARTLEET, Birmingham.
Mr. A. E. BARKER.
Dr. BRAMWELL, Perth.
Mr. BOUTFLOWER, Manchester.
Dr. BENNET, Buxton.
Mr. BEVERIDGE, Aberdeen.
Dr. BRUCE, Salford.
Mr. BRUDENELL CARTER.
Dr. BUZZARD.

Dr. CHEADLE.
Dr. CAVAFY.
Mr. CHESSHIRE, Birmingham.
Dr. CROCKER.
Dr. CUMMING, Edinburgh.
Mr. COOMBS, Bedford.
Mr. CRITCHETT.
Dr. J. CHIENE, Edinburgh.
Dr. CLAY, Plymouth.
Mr. CLUTTON.
Dr. ANDREW CLARK.
Dr. CORY.
Mr. COWELL.
Mr. CROFT.
Dr. CRIGHTON, Tavistock.
Dr. CARNEGIE, Chesterfield.
Mr. CULLINGWORTH, Manchester.
Dr. COLE, Bath.
Mr. T. COOKE.
Dr. CATON, Liverpool.
Mr. COATES, Salisbury.
Mr. A. COLEMAN.
Mr. CARTER, Liverpool.
Dr. O'CONNOR, Welshpool.
Mr. CARTER, Chelmsford.
Mr. COULING, Brighton.
Dr. COUPLAND.
Mr. CLAY, Birmingham.
Dr. CASSELLS, Glasgow.
Dr. CURNOW.
Dr. CARTER, Birmingham.
Dr. CHARTERIS, Glasgow.

Dr. W. H. DICKINSON.
Mr. DAVIES-COLLEY.
Dr. DAVIDSON, Aberdeen.
Mr. DALBY.
Dr. J. HALL DAVIS.
Dr. DUCKWORTH.
Mr. DAVIES, Oswestry.
Mr. DAWSON, Brighton.
Dr. DALE, King's Lynn.
Dr. DONNETT, Cheltenham.
Dr. J. LANGDON DOWN.
Dr. DEVEREUX, Tewkesbury.
Mr. J. DICKINSON, Wrexham.
Dr. DRESCHFELD, Manchester.
Mr. H. DONKIN.
Mr. DEAN, Ardwick.
Dr. DUNCANSON, Edinburgh.
Mr. DENTON, Leicester.
Dr. D. DRUMMOND, Newcastle-on-Tyne.
Mr. DAVIES, Sherborne.

Mr. DOLAN, Halifax.
Dr. DUNLOP, Jersey.
Dr. DUNLOP, Glasgow.

Mr. ERICHSEN.
Dr. EDDISON, Leeds.
Mr. ELLIS, Newcastle.
Dr. EDIS.
Dr. ELLIOTT, Carlisle.
Dr. J. H. EDDOWES, Loughborough.
Mr. A. EDDOWES, Loughborough.
Dr. EDISTON, Ipswich.
Mr. ELDER, Nottingham.
Dr. EADE, Norwich.
Dr. ESLER, Belfast.
Mr. ELLIOTT, Waterford.
Dr. ELLIOTT, Hull.
Mr. ENGLISH, Birmingham.
Mr. EALES, Birmingham.
Mr. EWART, Manchester.

Dr. FAIRBANK, Windsor.
Mr. FARQUHARSON, Stockton-on-Tees.
Dr. FENWICK.
Mr. FIELD.
Dr. FAGGE.
Dr. FOSS, Stockton-on-Tees.
Dr. FERGUS, Marlborough.
Mr. FOX, Bath.
Dr. FAIRBANK, Doncaster.
Dr. FLETCHER, Bury.
Mr. FIELD, Bath.
Dr. FOOTE, Rotherham.
Dr. FOSTER, Birmingham.
Dr. FINLAYSON, Glasgow.
Dr. FOULIS, Glasgow.
Dr. TILBURY FOX.
Dr. FERGUSON, Cheltenham.
Mr. FLEMING, Glasgow.
Mr. FUSSELL, Brighton.
Mr. FREELAND, Chichester.

Dr. GREENHOW.
Dr. GOWERS.
Dr. GALABIN.
Mr. GAMGEE, Birmingham.
Dr. J. G. GLOVER.
Mr. GOSSET, Abingdon.
Dr. GOODHART.
Mr. GARD, Devonport.
Mr. A. PEARCE GOULD.
Mr. GENTLES, Derby.
Dr. GREEN.
Dr. GRAMSHAW, Gravesend.
Dr. GREENFIELD.
Dr. GILL, Folkestone.
Dr. GARSTANG, Blackburn.
Dr. GRABHAM, Red Hill.
Mr. GLASIER, King's Lynn.
Mr. GLYNN, Liverpool.
Mr. GRELLET, Hitchin.
Dr. GIBSON, Newcastle-on-Tyne.

Mr. HALL, Swansea.
Mr. HIRD.
Dr. GRAILY HEWITT.
Mr. HARRIES, Aberystwith.
Mr. HOWSE.
Mr. HEDGES, Leighton Buzzard.
Dr. F. DE HAVILLAND HALL.

Mr. HULKE.
Mr. HIGGENS.
Mr. HARTLEY.
Mr. HAYWARD.
Dr. HIGHMORE, Sherborne.
Mr. HOPGOOD, Sunderland.
Mr. HOLTHOUSE.
Mr. HOLDERNESS, Windsor.
Mr. HARRISON, Liverpool.
Mr. HAMILTON, Liverpool.
Mr. HINE, Sheffield.
Dr. HALL, Brighton.
Dr. HOLDEN, Sudbury.
Dr. HAMILL, Worksop.
Mr. HUNT, Yeovil.
Mr. T. HOLMES.
Dr. J. B. HICKS.
Mr. HOUGHTON, Dudley.
Dr. HOLLIS, Brighton.
Mr. HOPE, Newcastle-on-Tyne.
Dr. HARRISON, Lincoln.
Dr. HANNAN, Downton.
Dr. HARVEY, Aberdeen.
Mr. HEATH, Manchester.
Dr. HUGHES, Dublin.
Mr. HOTHER, Lewes.

Dr. IRVINE.
Mr. IKIN, Leeds.
Mr. ILLINGWORTH, Peterborough.

Dr. G. JOHNSON.
Dr. C. HANDFIELD JONES.
Mr. T. W. JONES.
Mr. JEAFFRESON, Newcastle-on-Tyne.
Mr. S. JONES.
Mr. W. O. JONES, Cheshire.
Mr. JACKSON.
Dr. W. W. JONES.
Dr. J. HUGHLINGS JACKSON.
Mr. G. JACKSON, Plymouth.
Mr. JESSOP, Leeds.
Mr. JOHNSTONE, Brighton.
Mr. V. JACKSON, Wolverhampton.

Mr. R. KING.
Dr. KEALY, Gosport.
Mr. J. KEENE.
Mr. L. KING, Bath.
Dr. KELBURNE KING, Hull.
Dr. KIRKMAN, St. Leonard's-on-Sea.
Dr. KEBBELL, Brighton.

Mr. LISTER.
Dr. LICHTENBERG.
Mr. LUCAS.
Mr. H. LEACH.
Dr. J. W. LEGG.
Mr. LITTLETON, Plymouth.
Mr. LOWE, Lincoln.
Mr. H. LUCAS, Huntingdon.
Dr. LOCKE, Carlisle.
Dr. LAWRIE, Glasgow.
Mr. G. LAWSON.
Dr. LIDDON, Taunton.
Dr. LOWE, Lynn.
Dr. LANCHESTER, Croydon.
Mr. LUPTON, Stratford-on-Avon.
Dr. LYON, Glasgow.

* Where no address is given, the gentleman opposite whose name the blank occurs resides within the metropolitan district.

Mr. LITTLEWOOD, Nottingham.
Dr. MOXON.
Mr. MAY, Tottenham.
Dr. MORRIS, Marlborough.
Dr. MACDONALD, Edinburgh.
Dr. MOORE, Dublin.
Dr. MONTGOMERY, Penzance.
Prof. MACLEOD, Glasgow.
Mr. MURRAY, Forfar.
Dr. MADDEN, Glasgow.
Dr. MATTERSON, York.
Dr. MYRTLE, Harrogate.
Mr. M'GILL, Leeds.
Dr. H. MACCORMAC, Belfast.
Dr. M'VAIL, Glasgow.
Dr. MEIGHAN, Glasgow.
Dr. M'VEAGH, Dublin.
Mr. MELDON, Dublin.
Mr. C. F. MAUNDER.
Dr. MORRIS.
Mr. MORGAN, Bishopwearmouth.
Dr. MACLAREN, Carlisle.
Dr. J. MORTIMER-GRANVILLE.
Dr. J. W. MOORE, Dublin.
Mr. C. MACNAMARA.
Mr. MARTIN, Abingdon.
Mr. F. MASON.
Mr. MARSDIN, Eastbourne.
Dr. MONCKTON, Rugeley.
Dr. MACKINDER, Gainsborough.
Mr. MASON, Burton-on-Trent.
Dr. MALINS, Birmingham.
Dr. MACNAB, Bury St. Edmunds.
Dr. MUNDIE, Eastbourne.
Mr. F. M. MACKENZIE, Inverness.
Mr. MOORE, Coventry.
Dr. MURRAY, Newcastle-on-Tyne.
Dr. MORRIS, Spalding.
Mr. MONRO, Newtown.
Mr. MURIEL, Whitehaven.
Mr. MASON, Ramsgate.
Dr. S. MACKENZIE.
Mr. MOORE, Plymouth.
Dr. MORISON, Jersey.
Sir WM. MILLER, Londonderry.
Dr. MACEWEN, Glasgow.
Dr. JAS. MORTON, Glasgow.
Mr. T. W. NUNN.
Dr. NESFIELD, Old Trafford.
Mr. A. T. NORTON.
Dr. NICHOLLS, Chelmsford.
Dr. O'NEILL, Lincoln.
Dr. NESHAM, Newcastle-on-Tyne.
Mr. NANKIVELL, Rochester.
Mr. NICHOLSON, Hull.
Mr. E. OWEN.
Dr. A. L. OWEN, Southsea.
Mr. OXLEY, Liverpool.
Mr. ODELL, Hertford.
Dr. F. OGSTON, jun., Aberdeen.
Dr. J. W. OGLE.
Mr. C. ORTON, Newcastle.
Dr. PAVY.
Dr. PALFREY.
Mr. H. POWER.
Mr. H. W. PAGE.
Dr. PHILLIPS, Reading.
D. POWELL.
Mr. PARSONS, Dawlish.
Dr. J. POLLOCK.
Mr. PIERREPONT, Manchester.
Dr. G. V. POORE.
Dr. PIERCE, Manchester.
Dr. J. B. POTTER.
Mr. PARKER, Liverpool.
Dr. PRATT, Newtown.
Mr. PARSONS, Bridgwater.
Dr. PHILIPSON, Newcastle-on-Tyne.
Dr. T. B. PEACOCK.
Mr. PANT, Kingston.
Mr. PAUL, Liverpool.
Dr. PURDON, Belfast.
Dr. PAINE, Stroud.
Dr. PEARSE, Plymouth.
Mr. POWELL, Manchester.
Mr. A. PARKER.
Mr. G. PADLEY, Swansea.
Dr. S. RINGER.
Dr. D. A. ROBERTSON, Edinburgh.
Dr. RALFE.
Mr. H. A. REEVES.
Dr. ROW, Devonport.
Mr. G. W. RHODES.
Dr. D. L. ROBERTS, Manchester.
Dr. RICHARDS, Bangor.
Mr. J. L. ROBERTS, Denbigh.
Mr. W. RIVINGTON.
Dr. F. T. ROBERTS.
Mr. ROXBURGH, Edinburgh.
Mr. RENTON, Glasgow.
Dr. W. L. REID, Glasgow.
Mr. ROSS, Monaghan.
Mr. RICHARDSON, Manchester.
Dr. RASCH, Tottenham Hospital.
Mr. W. S. SAVORY.
Dr. J. SAWYER, Birmingham.
Dr. SHEEN, Cardiff.
Dr. STIRLING, Perth.
Mr. T. SMITH.
Dr. R. SOUTHEY.
Mr. SULLIVAN, Carlisle.
Dr. SCOTT, Southampton.
Mr. SHARKEY.
Dr. O. STURGES.
Mr. S. J. A. SALTER.
Mr. SWAIN, Devonport.
Mr. A. SANGSTER.
Mr. SHARP, Truro.
Mr. SHEAF, Barrow-in-Furness.
Dr. STEELE, Rome.
Mr. SHEPPARD, Worcester.
Dr. SAVAGE, Birmingham.
Dr. STRANGE, Worcester.
Mr. SYMPSON, Lincoln.
Mr. SMITH, Shepton Mallet.
Dr. SHAPTER, Exeter.
Mr. SHEARMAN, Rotherham.
Dr. STEPHEN, Brighton.
Dr. STEWART, Edinburgh.
Dr. SADLER, Barnsley.
Mr. W. W. SMYTH, Maidstone.
Mr. E. S. SMITH, Liverpool.
Dr. SKERRITT, Richmond-hill.
Mr. STEWART, Barnsley.
Dr. J. SMITH, Dumfries.
Mr. SHERBURN, Hull.
Mr. A. B. SHEPHERD.
Dr. CHARLES SIMS, Birmingham.
Dr. SLOAN, Glasgow.
Sir HENRY THOMPSON.
Dr. P. TYTLER.
Dr. E. S. THOMPSON.
Dr. C. B. TAYLOR, Nottingham.
Mr. TYSON, Folkestone.
Dr. R. H. TAYLOR, Liverpool.
Dr. THORBURN, Manchester.
Mr. J. TWEEDY.
Mr. L. TAIT, Birmingham.
Mr. W. THOMAS, Birmingham.
Dr. TIBBITS, Bradford.
Mr. J. THOMPSON, Nottingham.
Mr. TUDOR, Dorchester.
Dr. W. THOMSON, Peterborough.
Mr. F. T. TAYLER.
Mr. H. O. TAYLOR, Nottingham.
Dr. TUCKWELL, Oxford.
Dr. TRUMAN, Nottingham.
Dr. TOTHERICK, Wolverhampton.
Mr. THOMPSON, Omagh.
Mr. VACHER, Birkenhead.
Dr. VERNON, Southport.
Mr. WAGSTAFFE.
Mr. T. M. WILLS, Liverpool.
Dr. J. WILLIAMS, Bangor.
Mr. WEST, Launceston.
Dr. WOLFE, Glasgow.
Mr. WEST, Birmingham.
Mr. H. WALTON.
Mr. WHIPPLE, Plymouth.
Mr. WILSON, Cheltenham.
Dr. WALKER, Chesterfield.
Mr. WHIPHAM.
Mr. J. WOOD.
Mr. WEST, Tavistock.
Dr. WARDELL, Tunbridge Wells.
Mr. C. WILLIAMS, Norwich.
Mr. WALSH, Worcester.
Dr. WADHAM.
Dr. J. WILLIAMS.
Mr. WEATHERLY, Portishead.
Dr. WOTTON, King's Langley.
Dr. WHITE, Southport.
Mr. WALKER, Doncaster.
Mr. WOOD, Boston.
Dr. WYBRANTS, Shepton Mallett.
Mr. WEARNE, Helston.
Mr. WOODS, Southport.
Mr. WHITE, Kingston.
Mr. WARDEN, Birmingham.
Dr. J. C. O. WILL, Aberdeen.
Dr. E. WATSON, Glasgow.
Dr. P. H. WATSON, Edinburgh.
Mr. T. W. WILLIAMS, Birmingham.
Dr. A. WILTSHIRE.
Mr. J. F. WEST, Edgbaston.
Mr. WADE, Birmingham.
Mr. WIBLIN, Southampton.

Notes, Short Comments, and Answers to Correspondents.

FACTORY MEDICAL CERTIFICATES.

OUR attention has been directed by a correspondent to certain observations of the Royal Commission appointed to inquire into factory legislation, with a view to the consolidation of the various Acts relating thereto. It would appear that the Commission in their Report expressed the opinion that "vaccination would be a desirable addition to the surgical certificate, considering that nowhere is contagion more likely to be disastrous than in crowded places" (vol. i., sec. 192). It would appear also from the medical evidence submitted to the Commission that "the factory medical officers were particularly called upon by the (factory) inspectors to take note of the state of vaccination during the prevalence of small-pox by special examination of children presented to them" (vol. ii., sec. 146). The Home Secretary has not in his new Factory Act made vaccination a condition to be noted in the certificate which is required of the factory medical officer; but our correspondent thinks that, small-pox having again shown a tendency to increase in the metropolis, it may be useful to direct attention to the above suggestion of the Commission.

Fair Play, (Jamaica.)—We do not think the matter of sufficient moment to revive after the lapse of so many weeks. Meanwhile we beg to thank the writer.

A CORRECTION.

To the Editor of THE LANCET.

SIR,—Your number of Dec. 22nd contains a report of the meeting of the Clinical Society held on Dec. 14th. I am reported as having said (p. 923) that in performing excision of the ankle-joint I "had *not made* lateral incisions, having been able sufficiently to reflect the soft parts from before backwards." I distinctly stated that I *had* used lateral incisions in the three cases referred to. I said also that I had not found it necessary, in order to saw off the ends of the tibia and fibula, to thrust them through either the inside or the outside wound, and that I had sawn them off by means of a narrow-bladed saw, worked from before backwards. I am aware that some modern surgeons have successfully practised the operation under discussion by the anterior incision, and I do not doubt that method enables the operator to expose and examine the interior of the joint very thoroughly. By the lateral method the joint may be exposed sufficiently well, and the objections which attend the anterior incision cannot be raised against the lateral incision. I do not wish to be represented as speaking in condemnation of a method of operating concerning which I have every reason to think highly.

Yours faithfully,

Brook-street, Grosvenor-square, Dec. 1877. J. CROFT.

NATIVE CHINESE DOCTORS.

THE extraordinary hostility which the inhabitants of the Celestial Empire evince to all attempts to introduce Western ideas and innovations into their huge Empire is nowhere more marked or determined than in the profession of curers of bodily diseases—a class of men who at the present day practise precisely the same sort of charlatanry that prevailed in the country ages ago, when the world was young. Everything remains stationary in that wonderful land, and nothing more so than the art of physic. We observe that an English paper published in Hong-Kong, the *Daily Press*, has taken up the question of the incapacity and ignorance of the native doctors, who, although they are not acknowledged by law, can recover payment in the British Courts for services rendered. Our contemporary makes several suggestions, which, if carried out, would be the means of protecting the public from the most incompetent of the "doctors" by subjecting them to an examination. We confess we are not at all sanguine of any reform being effected in this direction for a long time to come. When a nation refuses to have any railway in its country (the Woosung Railway, opened in June, 1876, has just been closed by the Chinese authorities), it would be vain to expect such a people to be won over to the appreciation of modern surgery and medicine.

H. A. G.—The pay commences at 11*s.* per day. Admission into the department can only be obtained by competitive examination, one of which takes place in February, 1878.

Nescient.—Unhappily such cases are too common.

ANTISEPTIC SURGERY.

To the Editor of THE LANCET.

SIR,—As a pupil of Mr. Lister's, who has followed the practice of several leading London surgeons, you may perhaps allow me to make a remark or two on the suggestion of Mr. Holmes, in your issue of Dec. 15th, as to a mode of testing the truth of Mr. Lister's theory.

Mr. Holmes seems to imagine that if good results could be obtained by a system of dressing which should only be partially antiseptic, the germ theory would be thereby disproved, or at least a good deal discredited; but nothing can be more opposed than this to Mr. Lister's teaching. If the germ theory could be thus overthrown, its overthrow has been already accomplished. Mr. Wells has achieved the most brilliant results by taking care that there shall be few deleterious germs present at his operations. Mr. Hutchinson has seemed to me to be as successful as Mr. Lister with compound fractures by taking care to prevent the multiplication of germs by the application of cold. Mr. Maunder and others, in their subcutaneous section, by which the entrance of germs *in a dangerous dose* is almost impossible, have attained extraordinary success. Finally, Mr. Spence at Edinburgh at one period (hardly, I think, while I walked his wards) attained very striking results by careful attention to ventilation and cleanliness. Mr. Holmes seems to overlook the fact that it is a fundamental doctrine with Mr. Lister that the danger of germs depends upon the relation borne by the dose and character of them exhibited to the vital resistance and absorbing capacities of the tissues to which they are applied. Hence all measures that limit the dose or prevent its multiplication will tend to good results, and in very many cases prove to be all that is necessary. As the dose, however, is invisible, and may with all your care be large or virulent when you least suspect it, partial antiseptic practice is liable after periods of success to have sudden runs of disaster.

As to cases that are suited for *testing* the antiseptic theory, I may observe that they can only be those where the surgeon begins with an unbroken surface, and deals with an admittedly dangerous operation, exposing structures like the interior of joints, or the ends of sawn or broken bones in operations for non-union, and that preferably in a somewhat delicate person. If the London surgeons must have a rough and striking test, I would humbly suggest that they might get twenty psoas abscesses, and let them be laid freely open—ten by Mr. Lister, and ten by the champion of their choice. The plan suggested by Mr. Holmes, of trying the matter by pitting the general surgical practice of a first-class London surgeon against that of the new northern importation, as boys depute the biggest fellow in the school to thrash the latest arrival, is pre-eminently English; but in deciding a scientific question it has its disadvantages. Mr. Lister might be more lucky in the cases he got, more skilful in his diagnosis, more judicious in his interference, than Mr. Wood; or the reverse might hold true. In either case we would be bound to determine our belief or disbelief in a supposed law of universal nature, by the relative luck or merit of two individual men in the treatment of cases, of which perhaps one in ten had a crucial bearing on the law in question.

The truth is, that this is a question in science rather than in surgery, and hence, while eagerly adopted by the scientific Germans, and a little grudgingly by the semi-scientific Scotch, the antiseptic doctrine has never been in any degree appreciated or understood by the plodding and practical English surgeon. Happily for his patients, he has for a long time been to a considerable extent practising a partially antiseptic system, thanks to his cleanly English instincts; but it has been like the lady who talked prose without knowing it.

I am, Sir, yours &c.,

London, December 18th, 1877. PLANEUR.

M.D.—It is difficult, often impossible, to tell whether a dog is affected with rabies without knowing the history of the case. The symptoms narrated by our correspondent as having been observed seem rather to indicate epileptic madness than rabies.

Dr. Clifford Allbutt.—Best thanks.

Mr. Donald Napier.—The suggestion is important, and has already been repeatedly made in our columns.

Scrutator.—We regard the charges as extremely moderate.

INJECTION OF HOT WATER IN POST-PARTUM HÆMORRHAGE.

AT a recent meeting of the Dublin Obstetrical Society, Dr. Atthill, of the Rotundo Lying-in Hospital, gave his experience in the treatment of post-partum hæmorrhage by injecting hot water into the uterus. He was induced to try this method in consequence of a letter by Dr. Whitwell, of San Francisco, who advocates its employment, and on two occasions on which he used it in serious cases of flooding he obtained satisfactory results. The temperature of the water injected should, he says, be about 110°, and the tube of the syringe should be passed right up to the fundus of the uterus, or at least fairly within its cavity.

Talpa is thanked. The whole subject is ripe for reform. Elsewhere our correspondent will find an opportunity to move in the matter—we trust to some purpose.

Mr. John Gorham, (Tunbridge.)—We are glad to say that the paper has been found. It shall have insertion in an early number.

F. M. should consult his medical attendant.

Mr. Sheppard is thanked.

"A COMPLAINT."

To the Editor of THE LANCET.

SIR,—As the person referred to in the letter headed "A Complaint" in your issue of last week, I crave leave to ask your publication of my version of the facts.

In August last, on a mutually satisfactory introduction, I entered into a temporary arrangement with the lady who addresses you to take up the practice vacated by her husband, who had some time ago suddenly "gone abroad" (as she euphemistically expresses it), not at all, as you were informed, "owing to ill-health," but, in plain English, to avoid his creditors, and without any definite expectation of his return. She was naturally very anxious to make something out of the wreck of the very modest practice he had thus abandoned—which since his "going abroad" had been carried on after a fashion by an unqualified practitioner,—and so proposed that I should take it up, *not* as her husband's temporary *locum tenens*, but as his permanent successor if I found the experiment satisfactory. She accordingly suggested that I should try it for three months, having for that time the free use of the surgery, waiting-room, and a bedroom; and proposed that if, after this trial term, I continued the practice, she should thenceafterwards receive one-third of the profits. This was agreed to; but I had hardly left the house—the lease of which, I should say, was in her own name, and not in that of her husband—when she wrote me, insisting on my paying a guinea a week for the rooms, as this, she said, had been offered her by another practitioner. I consented, and (as the enclosed copy of receipt will show) the guinea a week was paid as rent for the rooms, and in no way as a consideration for the practice, which I soon found to be of very little value indeed. On this basis, however, the arrangement proceeded till near the end of the three months, when, believing that I could work up the practice to a supporting point, and as there was still no word of her husband's return, I proposed to Mrs. —— that our relation should be definitely settled by a regular legal agreement. When, after considerable delay, a draft of this, prepared by her father, a barrister, was sent to me, I found that it contained two totally new covenants—namely, that it should be competent to Mrs. —— to turn me out of the house and practice summarily on three months' notice, and that in the event of my being so ejected, I should bind myself not to practise for three years within one mile of the place. I submitted the draft to my legal adviser, who informed me that, as a married woman, the lady could not bind her husband without his power of attorney; and that even if she had such a power, my signature of the agreement, as it was framed, would constitute a partnership with the absent husband, and so possibly mix me up with his liabilities. For these reasons, as also for the two new covenants I have mentioned, he advised me not to sign such a contract, and I accordingly so informed Mrs. ——. I offered, however, to take over the whole house from her at its rent, and to bind myself to pay to her an equitable share of whatever the practice might produce. The answer to this was a summary week's notice to quit, and the issue of a printed circular throughout the neighbourhood that I had been "replaced" by another practitioner.

Now, Sir, under these circumstances, and seeing that I had myself recovered and new made more than half the practice as it stood at this date, I felt, and still feel, justified in reaping the fruits of my own three months' zealous labour. Sympathising with her position, I was willing to make Mrs. —— a fair and even generous allowance out of the income from the business, as compensation for my introduction to the neighbourhood; but that being refused, and an attempt made to impose on my inexperience most unsafe and inequitable terms, I felt quite free to stand on my rights of independent practice with new patients whom I had myself secured, and with such others as might elect to avail themselves of my services. In so doing I confess my inability to see that I have acted in any way unbecoming a professional man and a gentleman.

The statements of Mrs. —— with reference to my issue of "circulars" and refusal "to give up the books," and also with reference to engagements for confinements, are as inaccurate as most else in her letter. I issued no "circulars"; but I did write a few notes to patients who were my own debtors, as I still believe I was entitled to do. Excepting one old day-book belonging to her husband, which I at once delivered to Mrs. ——, all the other books had been bought by myself, and contained only entries of fees earned by myself, and due therefore to me alone. These I certainly declined to deliver up to my "successor," and in so doing I am advised, I was both legally and equitably within my right. And so, too, as regards the engagements for confinements: these were made with me personally, and in no sense that I can recognise either with Mrs. ——'s absent husband, who is still "abroad," with no prospect of an early return, or with my "successor," who was totally unknown to the parties.

I regret much to have trespassed at this length on your space; but your editorial remark on the letter under notice compelled these detailed explanations, for which, in fair play, you will I hope find room in your next issue. I am, Sir, your obedient servant,

Dec. 24th, 1877. SURGEON.

MAY MEDICAL MEN BE CALLED ON TO COLLECT INCOME TAX?

Lex.—Ours is a hard profession. One of the few set-offs against its constant demands upon time and sleep and weariness is that we are exempt, by law, from some civil and military duties, which indeed in the very nature of things could not be discharged by a medical man. Laws to this effect have existed for centuries, and were reaffirmed in the following clause (the 35th) of the Medical Act of 1858:—"Every person who shall be registered under the provisions of this Act shall be exempt, if he shall so desire, from serving on all juries and inquests whatsoever, and from serving all corporate, parochial, ward, hundred, and township offices, and from serving in the militia, and the name of such person shall not be returned in any list of persons liable to serve in the militia, or in any such office as aforesaid." In spite of this our correspondent, a surgeon, has been called upon to fill the office of collector of the income tax and inhabited house duty, and is told by the clerk to the Commissioners that he is not exempt from serving. The call is monstrously unreasonable, and we advise "Lex" to respectfully decline compliance with it, as inconsistent with reason and the law.

Mr. Adams Parker.—We do not remember the character of the paper proposed. Kindly restate the question.

THE MEDICAL PROFESSION IN THE COFFEE DISTRICTS OF CEYLON.

To the Editor of THE LANCET.

SIR,—I see by an advertisement in your journal of August 1st that a European medical officer is wanted, under the provisions of the Medical Wants Ordinance, No. 14, of 1872, for a district in Ceylon; and as from time to time such advertisements are likely to appear, perhaps the following remarks may be of interest to those who intend competing for any of these appointments. They can then judge for themselves whether they are as desirable as they seem to be.

The climate of the hill country of Ceylon, though cool and healthy in comparison with India, is very trying to a medical man, who has in the performance of his duties to ride long distances, exposed to rain and hot sunshine alternately. The roads, as a rule, are very bad, and severe upon both horse and rider; over most of these anything but a walking pace is impossible. Owing to the size of the districts (twenty-five to thirty miles in diameter), the district surgeon is compelled to remain away from home two or three nights in each week, and is fortunate indeed if he gets a bed to sleep on; but in most instances will have to be content with a sofa, and exposure all night to the attacks of mosquitoes. Considering the onerous nature of his duties and the great cost of living in Ceylon, the pay is very small, and quite inadequate, as in most districts private practice is a myth. There is no retiring allowance nor regular leave of absence, so should a surgeon break down in health, as several have done since the ordinance came into force, he has nothing for it but to resign and leave the island, very likely a poorer man than when he came into it. Good horses are scarce and very expensive; the price ranges from 500 to 1000 rupees; horsekeeper's pay and food for each horse, 500 rupees per annum. In case of accidents, two horses are necessary. Servants' wages, food, &c., may be put down at another 2000 rupees; but should the doctor's bungalow be near a public road, and he be a "good sort of fellow," he will have a large number of visitors, and a corresponding increase in his household expenditure. As regards the "Medical Ordinance" itself, it is most unsatisfactory, and will be so until Government take it over completely into their own hands, and establish a regular system of leave and pension. At present a "district surgeon" is neither the servant of the Government nor yet of the planters. If he sides with one, he incurs the censure of the other; and I regret to state that some of the planters of a certain class, who consider that they do not "get enough value" in the way of medicine &c. for their assessment of a rupee an acre, or whose early lives have been unfavourably reported on, do not hesitate to write to the colonial papers, reflecting in a most unwarrantable manner on the competency and character, professional and otherwise, of their surgeons, who as a body are far too good for them.

In conclusion, I would strongly advise, from personal experience, no medical or surgical practitioner, who has any chance of succeeding at home, to try his fortune in Ceylon, at least until medical arrangements there have undergone a complete change, or else let him not be surprised to find himself on arrival at his destination as greatly disappointed as was,

Your obedient servant,

Kandy, Ceylon, Sept. 30th, 1877. AN EX-DISTRICT SURGEON.

"SYRUP OF FOXES' LUNGS."

A CHEMIST was recently charged at East Dereham Petty Sessions with having sold a preparation of poppies made up in a compound called "Syrup of Foxes' Lungs" without labeling the bottle with the name of the article and the word "poison," contrary to the regulations of the Pharmacy Act. It appeared that a fatal result had followed the administration of the compound to an infant, and the present proceedings were due to something which had been elicited during the progress of the coroner's inquest on the child. The defendant was fined £5 and £1 10s. costs, with the alternative of one month's imprisonment. The Chairman, in announcing the decision of the Bench, said they regarded the defendant's conduct as so reprehensible that the fullest penalty in their power was inflicted.

Dr. Liddon.—We are obliged.

Dr. F. Sander (Barmen) will find, by referring to our impression of the 8th ult., page 858, that considerable space has already been devoted to a notice of his book, the review of which will be completed in an early number.

Two Surgeons.—It is difficult to speak dogmatically about our correspondents' specimens, which bear a curious resemblance to an extremely fatty and cirrhotic liver. There are lobules of large nucleated cells, the majority of which are replaced by fat; whilst between the lobules, bloodvessels, and ducts lined by columnar epithelium, in the midst of much fibrous tissue, recall the portal canals. The very large number of bloodvessels in this interlobular tissue is the chief point of difference from cirrhosis. Speaking, then, with all reserve, as we are bound to do without having the full details of the case before us, but only a few sections from a single tumour, we might regard it as a very vascular adenoma which has undergone fatty metamorphosis.

Dr. Ferguson.—With thanks.

A Subscriber, (Ireland.)—Apply to the Secretary of the Company, 122, Leadenhall-street, E.C.

ANTIPERIODICS.

To the Editor of THE LANCET.

SIR,—As several letters have of late appeared in the columns of THE LANCET on prophylactics in lieu of quinine, perhaps the following remarks may prove of interest to your readers.

Finding as I did that quinine did not give the satisfactory results I had been led to suppose from the current literature of the day, I was induced to try to find some drug that would act more surely and with greater effect than did quinine. This was more necessary since quinine was daily becoming scarcer, while the demand for it had increased. I tried nearly every form of treatment that I had heard of, but found nothing to rely on in most cases. After carefully comparing the cold stage of ague with the collapse stage of cholera and other diseases in part resembling it, I came to the conclusion that the collapse stage was practically the same in all, and that one form of treatment would accomplish what was required. I then found that nitrite of amyl was the remedy I wanted, and accordingly used it in two or three minim doses by inhalation. The result was that I found I could remove the cold stage of ague in five or ten minutes, and that the hot and sweating stage was reduced in like proportion. I wrote a paper explaining my theory, and illustrated by cases, which may be found in the April number of the *Indian Medical Gazette*, and again in the November number of 1876. I tried to induce my friends to adopt it, and one or two did successfully; but the great objection appeared to be that, on account of the difficulty of giving it in small doses, it was too dangerous a remedy. I have since read in the columns of your journal that Messrs. Allen and Hanburys, of Plough-court, have introduced capsules containing five minims of nitrite of amyl, which ought to meet this objection. Few of my cases required more than fifteen grains of quinine altogether, and a relapse seldom followed. I have had but few failures, and these were in cases where the rigors of catarrha took the form of an attack of ague on coming to an English winter after repeated attacks of ague and long residence in India.

I do not for one moment mean to say that the use of quinine should be discontinued; for there is no medicine so useful in preventing chills, more especially when combined with small doses of opium, and in removing that toxic state which results after oft-repeated attacks of ague. It is very useful also in that ill-developed form of intermittent fever so frequently met with in the tropics. Many drugs will often prevent a recurrence, such as bromide of potassium, chloral hydrate, &c.; but I know of nothing that will stop or at once cut short the cold stage of ague but nitrite of amyl.

I hope others who have the opportunity will give this a trial; for I can promise them that two minims of nitrite of amyl by inhalation, repeated if necessary, will cut short many a cold stage at their hands. I hope that this appeal will not be so futile as it was in India last year.

I am, Sir, yours truly,

Cosham, Hants, Dec. 6th, 1877. W. E. SAUNDERS, A.M.D.

"MEDICAL EDUCATION IN SCOTLAND."

To the Editor of THE LANCET.

SIR,—In your interesting article of to-day on "Medical Education in Scotland," you give a very accurate account of the flourishing condition of the Scotch schools of medicine. But while it is admitted that the numbers attending the University of Edinburgh are greater than those in the University of Glasgow—although why it should be so at the present day it is very difficult to say,—the disproportion is by no means so great as your figures would lead one to suppose. The reason for this is not far to seek. The two extra-academical medical schools of Glasgow are between two and three miles distant from the University, so that hardly any of their students attend classes in the University, which, therefore, has to depend for its numbers almost entirely upon its own students.

In Edinburgh, on the other hand, all the extra-academical teachers are clustered round the University, and the whole of the medical students attend the same hospital. The consequence is that they constitute a more compact body, and the great majority of the extra-academical students take some of their classes in the University. This they cannot do without matriculating, and they thus go to swell the number of the University students. That this is an important factor, to be taken into account in estimating the numbers of students *really* belonging to these two Universities, is apparent from the fact that some of the medical classes in the University of Glasgow are actually larger than the corresponding ones in Edinburgh. Thus, to quote your own statistics, the class of Surgery in Edinburgh is attended by 132, that of Glasgow by 209 students.

These remarks are not made with the view of depreciating the great work which is at present being done in the University of Edinburgh, but in order that the true position of the University of Glasgow in the matter of medical education may be understood.

I am, Sir, yours truly,

Dec. 29th, 1877. A WELL-WISHER TO BOTH UNIVERSITIES.

MAYNE'S LEXICON.

MEMBERS of the New Sydenham Society will be glad to learn that they will probably soon receive the first instalment of this Lexicon. Great difficulties have, we understand, been encountered in procuring a suitable editor; but at length, under the editorship of Mr. H. Power and Dr. Sedgwick, the work is about to go to press. It is entirely rewritten, and much enlarged.

Mr. T. Lafan.—The Peers on the Lords Committee appointed for the purpose of inquiring into the prevalence of Habits of Intemperance, and into the manner in which these habits have been affected by recent legislation, and other causes, and to report to the House, are the Archbishop of Canterbury, the Archbishop of York, Duke of Westminster, Earl of Shrewsbury, Earl of Shaftesbury, Earl of Belmore, Earl of Onslow, Earl Morley, Earl of Kimberley, Viscount Gordon, Viscount Hutchinson, the Bishops of Peterborough, Exeter, and Carlisle, Lord Penrhyn, Lord Aberdare, Lord Cottesloe. Afterwards Lord Hartismere and the Earl of Dudley were added.

A Constant Subscriber and *Disinfection.*—Carbolic acid is a true disinfectant. Its applicability as a disinfectant under the conditions mentioned by our correspondent will best be determined by the medical officer of health for the borough, who is in the position to advise most correctly on the subject.

Magnus.—St. Thomas's, University College, and King's College Hospitals.

COMMUNICATIONS, LETTERS, &c., have been received from — Sir Henry Thompson, London; Dr. Brown-Séquard, Boston; Mr. J. Hutchinson, London; Mr. Maunder, London; Mr. Croft, London; Mr. Rivington, London; Dr. Buzzard, London; Dr. Liddon, Taunton; Mr. Sheppard, Worcester; Mr. Padley, Swansea; Mr. Orton, Newcastle; Dr. Sims, Birmingham; Dr. Clifford Allbutt, Leeds; Mr. Parsons, Bridgwater; Dr. Ferguson, Cheltenham; Mr. Shepherd, London; Mr. C. Jackson, Plymouth; Surgeon-Major Staples, London; Dr. B. Foster, Birmingham; Mr. Johnstone, Uttoxeter; Mr. Fox, Bristol; Dr. Allardyce, Ceylon; Mr. Jacobs, Culworth; Mr. Goyder, Bradford; Mr. Bransby, Peterborough; Dr. Burd, Shrewsbury; Dr. Thursfield, Shrewsbury; Dr. Jagielski, London; Dr. Cheadle, London; Dr. Pierson, Dresden; Mr. Tomlins, Manchester; Mr. Carter, Bath; Mr. Russell, Romaine; Mr. Manby, East Redham; Mr. Steel, Abergavenny; Mr. W. Paley, London; Dr. Rice, Withington; Mr. Rogers, Jamaica; Dr. Thomas, Wilmington, U.S.A.; Dr. Hardwicke, London; Dr. Gorham, Tunbridge Wells; Mr. Illingworth, Peterborough; Mr. Mason, Pontypool; Mr. Cortes, Bathurst, New South Wales; Dr. Stackpole, Cavendish, New Zealand; Dr. Munro, Kilmarnock; Mr. Moger, Highgate; Mr. Coombs, Bedford; Mr. Godson, London; Mr. Bloxam, London; Mr. Barker, London; Mr. Wheatley, Oporto; Mr. Potter, London; Mrs. Kavanagh, Coventry; Mr. Lewis; Mr. Craddock, Holloway; Mr. Handsley, Alford; Mr. Burder; Dr. Calwell, Glairyford; Dr. Kirkman, St. Leonard's-on-Sea; Dr. Walford; Dr. Lumgair, Largs; Mr. Moriarty, Ballinacourty; Dr. Griffith, St. Helens; Dr. Sander, Barmen; Dr. Decaisne, Paris; Dr. A. Rasch, Tottingham Hospital; Dr. Gibson, Newcastle-on-Tyne; Mr. Wilkinson; Mr. W. Hillman; Dr. Morton, Glasgow; Mr. A. Coleman; Mr. Littlewood, Nottingham; Mr. South, Woodford; Mr. Foster, Worcester; Dr. White, Westbury; Dr. Sturges; Dr. Cheesman, Southampton; Dr. Leake; Dr. Great Rex, Lawton; Mr. W. P. Jones; Mr. Nicholson; Dr. Falkiner; Dr. Bassett, Birmingham; Dr. E. Jones, Dolgelly; Mr. Thomson; Mr. Blasson, Edgware; Dr. Bradley, Dudley; Mr. Joy; Mr. Sellers, Radcliffe; Mr. Hodgkins; Mr. White; Nesciens; A Constant Subscriber; Lex; Talpa; Observer; Magnus; H. A. G.; Fair Play; A Well-wisher to both Universities; An Old Subscriber; Chirurgus; Scrutator; F. M.; Apple; Inquirer; Celsus; M.D.; M.R.C.S.; An Anxious Parent; The Registrar-General of Edinburgh; One who likes Justice; D. D. J., Leighton Buzzard; &c. &c.

LETTERS, *each with enclosure*, are also acknowledged from—Mr. Moore, Bourton-on-the-Water; Mr. Allen, Great Grimsby; Dr. Wilmot, Tunbridge Wells; Dr. Grant, Longton; Mr. Heath, St. Leonard's-on-Sea; Mr. Harley, Saffron Walden; Mr. Scott, Swatow, China; Mr. Towle, Manchester; Mr. Fletcher, Oldham; Mr. M'Donnell, Ballycastle; Mr. Wilkin, Lisbellow; Mr. Lush, Market-Lavington; Dr. Tuckwell, Oxford; Mr. Rouse, Bideford; Mr. Craigmile, Seacombe; Mr. Walker, Wakefield; Mr. Cooper, Sydney; Mr. Kesteven; Mr. J. R. Lane, London; Mr. Luscombe; Dr. Sutherland, Castletown; Dr. Johnson, Liverpool; Dr. Harding, Biddenden; Mr. Pugh; Mr. Harrison; Dr. Jones, Stafford; Mr. Jackson; Dr. Owen, Poynton; Mr. Sullivan; Dr. O'Connor, Welshpool; Dr. Taylor, Wrenkenton; Mr. Cretin; Mr. Tomlinson; Dr. Curling, Ramsgate; Messrs. Edmondson & Co.; Mr. Stilliard; J. S., Huddersfield; W. A. M.; A. Z., Ilminster; A.B., Worcester; Medicus, Liskeard; R. A.; Medicus, Sheffield; M.D.; Medicus, Yarmouth; H. W., Bristol; Surgeon, Dublin; Q. R. S.; G. T., Preston; Medicus, Northampton; Alpha, Manchester; A. H.; X. Y. Z.; Surgeon; M. H.; Zeta; D. F. G.; Graduate; Medicus, York; Physician; Medicus.

Volunteer Service Review, Dublin Evening Mail, Daily Courier, Animal World, Irish Times, Saunders's News-Letter, Southampton Times, &c., have been received.

METEOROLOGICAL READINGS.

(Taken daily at 8 a.m. by Steward's Instruments.)

THE LANCET OFFICE, JAN. 3RD, 1878.

Date.	Barometer reduced to Sea Level, and 32° F.	Direction of Wind.	Wet Bulb	Dry Bulb	Solar Radia in Vacuo	Max. Temp Shade	Min. Temp	Rainfall.	Remarks at 8.30 A.M.
Dec. 28	30·06	W.	..	32	..	50	28	..	Overcast
,, 29	29·64	S.W.	49	50	..	54	30	0·56	Overcast
,, 30	29·78	S.W.	49	51	..	52	46	..	Raining
,, 31	30·03	N.W.	39	42	..	46	40	0·16	Hazy
Jan. 1	30·34	N.W.	36	37	..	46	32	..	Foggy
,, 2	30·35	W.	45	46	..	51	35	..	Overcast
,, 3	30·30	S.W.	46	47	..	48	45	0·02	Overcast

Medical Diary for the ensuing Week.

Monday, Jan. 7.

ROYAL LONDON OPHTHALMIC HOSPITAL, MOORFIELDS. — Operations 10½ A.M. each day, and at the same hour.
ROYAL WESTMINSTER OPHTHALMIC HOSPITAL.—Operations, 1½ P.M. each day, and at the same hour.
ST. MARK'S HOSPITAL.—Operations, 9 A.M. and 2 P.M.
METROPOLITAN FREE HOSPITAL.—Operations, 2 P.M.
ROYAL ORTHOPÆDIC HOSPITAL.—Operations, 2 P.M.
LONDON HOSPITAL. — Operations, 3 P.M.; on Wednesday, 2 P.M.; on Thursday, 3 P.M.; and on Saturday, 2½ P.M.
MEDICAL SOCIETY OF LONDON. — 8½ P.M. Lettsomian Lectures: Mr. Francis Mason, "On the Surgery of the Face."

Tuesday, Jan. 8.

GUY'S HOSPITAL.—Operations, 1½ P.M., and on Friday at the same hour.
WESTMINSTER HOSPITAL.—Operations, 2 P.M.
NATIONAL ORTHOPÆDIC HOSPITAL.—Operations, 2 P.M.
WEST LONDON HOSPITAL.—Operations, 3 P.M.
ROYAL INSTITUTION. — 3 P.M. Prof. Tyndall, "On Heat, Visible and Invisible." (Juvenile Lectures.)
ROYAL MEDICAL AND CHIRURGICAL SOCIETY.—8½ P.M. Mr. H. T. Butlin, "On the Microscopic Anatomy of the Smooth Tongue (Chronic Superficial Glossitis)."—Mr. W. Sedgwick, "On Maternal Impressions."

Wednesday, Jan. 9.

MIDDLESEX HOSPITAL.—Operations, 1 P.M.
ST. MARY'S HOSPITAL.—Operations, 1½ P.M.
ST. BARTHOLOMEW'S HOSPITAL. — Operations, 1½ P.M., and on Saturday at the same hour.
ST. THOMAS'S HOSPITAL. — Operations, 1½ P.M., and on Saturday at the same hour.
KING'S COLLEGE HOSPITAL. — Operations, 2 P.M., and on Saturday at 1½ P.M.
GREAT NORTHERN HOSPITAL.—Operations, 2 P.M.
UNIVERSITY COLLEGE HOSPITAL. — Operations, 2 P.M., and on Saturday at the same hour.
SAMARITAN FREE HOSPITAL FOR WOMEN AND CHILDREN. — Operations, 2½ P.M.
HUNTERIAN SOCIETY.—7½ P.M. Council.—8 P.M. Mr. Jacobson, "On Supra-condyloid Amputation of the Thigh after the method of Stokes."

Thursday, Jan. 10.

ST. GEORGE'S HOSPITAL.—Operations, 1 P.M.
ST. THOMAS'S HOSPITAL.—Ophthalmic Operations, 4 P.M.
CHARING-CROSS HOSPITAL.—Operations, 2 P.M.
CENTRAL LONDON OPHTHALMIC HOSPITAL. — Operations, 2 P.M., and on Friday at the same hour.

Friday, Jan. 11.

ST. GEORGE'S HOSPITAL.—Ophthalmic Operations, 1½ P.M.
ROYAL SOUTH LONDON OPHTHALMIC HOSPITAL.—Operations, 2 P.M.
CLINICAL SOCIETY OF LONDON. — 8½ P.M. Annual General Meeting.—Dr. Althaus, "On a Case of Chorea in the Adult Male, complicated with Epilepsy."—Mr. Howard Marsh, "On a Case of Severe Hæmorrhage after Operation for Cleft Palate, arrested by Plugging the Posterior Palatine Canal."—Mr. Holmes: Sequal to a Case of "Excision of the Os Calcis," reported in vol. viii. of the Society's Transactions; also a Case of "Excision of the lower part of the Rectum."

Saturday, Jan. 12.

ROYAL FREE HOSPITAL.—Operations, 2 P.M.

NOTICE.

In consequence of THE LANCET being frequently detained by the Post Office when posted for places abroad *more than eight days after* publication, subscribers and others are reminded that such copies can be forwarded only as book packets, and *prepaid* as such.

TERMS OF SUBSCRIPTION TO THE LANCET.

POST FREE TO ANY PART OF THE UNITED KINGDOM.

One Year.....£1 12 6 | Six Months £0 16 3

TO THE COLONIES AND INDIA.

One Year £1 14 8

Post Office Orders in payment should be addressed to JOHN CROFT, THE LANCET Office, 423, Strand, London, and made payable to him at the Post Office, Charing-cross.

"THE LANCET" *Memorial on Poor Law Medical Relief Reform.*

To the Right Honourable GEORGE SCLATER-BOOTH, M.P., F.R.S., &c. &c. &c., *President of the Local Government Board.*

SIR,—We, the undersigned, being medical officers in the service of the Local Government Board, beg to lay before you a submission of opinion, formed by observation and experience in the discharge of our official duties; and to solicit the favour of your consideration for certain matters which, in our judgment, call urgently for reform; not only in the interest of the profession to which we belong, but in the interest of the poor and of the ratepayers, by whom funds are contributed for the relief of the sick and necessitous. We are especially anxious to make it clear, at the outset, that our concern in this matter as Medical Officers (and it is as such we address you) is limited to the condition and needs of those who apply for medical relief. We do not concede to any other class of our fellow-citizens, a larger or keener interest than that we ourselves feel in the welfare and humane treatment of the poor generally, but it is with the *business* question we are at the moment engaged, and in respect to that our claim to a hearing must be understood to be based upon the strictly utilitarian and economic view of the subject upon which we speak. We rest our appeal solely on the practical and public aspects of this question, and are prepared to submit the arguments we adduce to the test of statistical, and, if we may so say, prudential, reasoning. With this preliminary statement we place our conclusions before you in the following brief propositions.

1. It would, in many important respects, conduce to the advantage of the profession and the despatch of public business, if the poor-law service could receive an organisation as complete and independent, as self-contained and direct in its relations with the central government, as that which has, after many years of earnest suit and argument, been accorded to "the Army Medical Department." We will not trespass upon your attention with any attempt to set out the details of this particular phase of the reform we seek. The steps necessary to effect the changes required are neither many nor complex, nor are they necessarily of a nature to occasion serious opposition on the part of the local authorities when their real nature comes to be understood. For example, it is not essential, that the medical officers in a district should be appointed by the central board, but only that, being appointed, they shall become servants of the Local Government Board, in fact as well as in name.

2. It is desirable that the pay of medical officers should be proportioned to the average *time* occupied in the discharge of their duties; or at least so adjusted that the work of districts, small or extensive, may be requited in a manner consistent with the principle of fair remuneration for different degrees of toil and time bestowed. At the present moment there is no fixed rate or governing scale of payment; and the comparative amount of labour exacted by several appointments differs widely in a manner which gives occasion for much dissatisfaction, and renders the discharge of duty exceedingly difficult, in not a few cases impossible, in any real sense consistent with the wants of the poor.

3. It would be economical and conducive to the public advantage if the supply and dispensing of drugs were wholly separated from the duty of medical officers throughout the country. Where it would be impossible to entrust this business to skilled pharmacists it should be done by the Medical Officers under an agreement wholly distinct from the terms of their medical service. If the poor-law stations were supplied with drugs from a central establishment great economy would be effected and "the dispensary system" would be practically developed in the provinces to the satisfaction of medical practitioners of all classes, and the benefit of the poor.

4. Workhouses should be regarded as distinct from the system of *medical* relief, and instead of the "workhouse test" being applied to the sick poor, they should be treated at home or removed to a cottage-hospital or to an infirmary, as may be most favourable to their rapid and complete cure and early return to the position of bread-winners. Sickness, one of the most prolific and pitiable sources of pauperism, ought, we submit, to be placed upon a footing quite apart from that of ordinary causes of want and dependence on the rates. It is cheap and wise to cure the sick poor with the greatest promptitude, and all appliances requisite for that work should be supplied without grudging, even on the score of economy and simple regard for the interests of the ratepayers.

5. The supply of "necessaries" for the sick should be under the control of the Medical Officers without the intervention of the Relieving Officers. When a case is placed under the care of a Medical Officer by the Relieving Officer the control of the Relieving Officer should cease and, *for the purposes of the treatment* of such case until its conclusion, the Medical Officer should determine the relief to be given, subject only to the control of the Guardians, who may at their discretion withdraw the sick person from the care of the Officer by removing him or her to the workhouse. Medical "treatment" consists quite as much in the administration of a sufficient and appropriate diet as in the exhibition of drugs, and the object of the Medical Officer and the Guardians, alike, is to *cure*. Instead, therefore, of "recommending," the Medical Officer should, we maintain, be empowered to prescribe or, in the language of the law "order;" being responsible to the local board for the adequate and honest discharge of this duty.

6. In cases where it is desirable to treat patients "at home," the services of paid nurses should be available for the assistance of the Medical Officer, in the manner which has been found so admirable in working, in certain districts, and on which your Inspectors have doubtless reported.

7. Finally, we take leave to urge that the time has arrived when it would be convenient and serviceable to institute a departmental or legislative Commission to ascertain the actual position of the matters to which we have directed your attention. And we very respectfully submit that, unless you, sir, are prepared to lay before Parliament a scheme of reform dealing with the points we have brought under your notice in this memorial, an inquiry of the nature suggested would tend greatly to the public advantage and to the contentment of the large body of public servants we represent. Without pledging ourselves to any specific demands or recommendations, we prefer to leave the propositions, set out, for your consideration, and to ask that, in furtherance of the general object we have in view, and in the interests of the ratepayers not less than ourselves, you will consent to an inquiry of the character to which we point.

We have the honour to be,
Right Honourable Sir,
Your obedient and humble Servants,

**[This leaf, after being signed, should be returned (unsealed) to the Editor *not later than the 12th inst.*
The postage is one halfpenny.]**